

IN THE CROWN COURT
AT GUILDFORD

T20090070

Bedford Road,
Guildford,
Surrey, GU1 4ST.

15th October 2010.

Before:

HIS HONOUR JUDGE N.A. STEWART

R E G I N A

-V-

SEEMA MISRA

*Transcribed from tape by Marten Walsh Cherer Ltd.,
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Official Court Reporters*

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MR. W. TATFORD appeared for the Prosecution.

MR. K. HADRILL appeared for the Defence.

TRANSCRIPT OF PROCEEDINGS
DAY 5

Marten Walsh Cherer Ltd.
Tel: GRO

MR. VASARMY, still sworn.
Cross-examined by MR. HADRILL.

A

Q Mr. Vasarmy, it is thought proper that I should actually put to you some material which has come to light on a computer printout and that when you gave evidence you said that you never suffered problems with the working of the computer at West Byfleet. A. That is correct, yes.

B

Q And you were never aware of any computer problems at West Byfleet. A. That is correct.

C

Q Would you like to reflect upon that? A. No, because nothing was actually reported to me in my absence that there was any computer problems at all.

D

Q Because we were provided on Monday night with an NTL log printout and certainly it would have revealed and certainly from the evidence of Mr. Jenkins that your computer system would be not operating.

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MR. TATFORD: I wonder whether the document could be put. I am unclear as yet as to which document is being put.

F

MR. HADRILL: Well, it is this. It would be understood, I would have thought, but you can have a look at it because we can have a look at this computer. You took over on 14th January of 2008 and I can ask you to look at page 3 of 4 where we have highlighted just after the white entry an entry for 4th February 2008, and that is when the post office was in your hands (4th February 2008) and it shows a fatal error has occurred.

G

We understand, if I have not been misled, that the whole system would have closed down in the West Byfleet post office so it was not operating perfectly. Was it?

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A. I think it is 14th of January and I do not actually understand--

Q I have been asked to put the document to you-- A. Yes, because I do not understand the documentation and I do not know what this refers to but, as far as the

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systems are concerned, there is nothing that would show on the system that there is any problems on it.

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Q Could it be that you are not remembering accurately and painting a picture for the purposes of the jury and that everything was fine with the West Byfleet post office and systems which is not quite accurate? A. Sorry, sir?

C

Q You are not being accurate in your account with regard to the system having no problems and never being aware of any problems. There were problems, were there not? A. If there were problems and there were glitches then obviously we wouldn't actually see that come up on the system.

D

Q But the whole system would have crashed, would it not? I am not going to go around in circles, but we have also had Mr. Dunks from the post office at page 109 onwards. What we have is helpline logs/call logs and if I can ask you to look at the telephone numbers starting at 1 and they make their way up to 135 and what page do you have open to you at the moment? A. Page 43.

E

Q Does that have an entry numbered 110? A. Yes.

F

Q And there: "4th February PM wanted help with a transaction," and you are phoning the helpline at Fujitsu because you have a problem and it is being transferred to Chesterfield. Is that not right? There is a problem. A. It is help with a transaction. I am not quite sure whether it is a problem with the system here.

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Q Yes, but over the page at 112 and 113 it states that you need to do an AP reversal. A. An AP reversal is -- I do not have page 112 and 113, sir.

H

JUDGE STEWART: Page 44. A. Page 44, sorry.

Q Number 112. That is a message relating to 20th February 2008. A. Right, what that AP transaction is a swipe card transaction or a bar code transaction that needed

reversal.

A

MR. HADRILL: Somebody had swiped something, it had been pushed as being cleared and cash is in and suddenly realised the card has not been cleared. A. It has been

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entered in whichever way, whether it has been taken incorrectly as a cash instead of cheque or cheque instead of cash, in order to rectify that it would have to be reversed out and put in correctly.

C

Q Or perhaps could it be that someone has asked to put a debit card for 100 or 200 it has been swiped, fast cash button has been pressed, the card has been rejected it has been rejected and so you have to reverse it because it is not giving any money. A. That would not be an AP transaction.

D

Q That is not an AP transaction. A. No.

Q All right, but here if we can look at entry 119.

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JUDGE STEWART: We are now on 25th of July 2008. A. Yes, 118.

MR. HADRILL: "Advise PM to test a card transaction." There had been obviously some problems. You would like an engineer. A. Yes.

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Q This is the help desk. "Advise that I can send call to networks team but need to do a reboot. Postmaster advises he is busy all of the time." It is a busy post office.

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A. Not busy in the sense of on that particular -- I do not know what the situation or circumstances was but they refer to him as a postmaster but this is my colleague who was actually working at the time in there.

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Q "PM advises that this happened twice yesterday, some errors and problems and the postmaster would like to know which counter was disconnected." So there is a problem there, is there not? A. There was one problem in, if I can recall back, where we had a loose cable connection and this is the only thing I can think of; but

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generally in working we never had any problems and that loose connection when and if it came up it would disconnect.

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Q And then telephone call 119, 26th of July again 2008. It is a complaint by you: "One stock unit is showing £1,000 loss, unable to find where it has disappeared to." There has been a loss of monies. It is a problem and so you are phoning up the helpline.

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A. No, we informed the helpline of what the situation was on that particular occasion. I know about this situation. What happened was that we did not take in the customer's paying-in slip. Sorry, we did not take in the money, we took in the paying-in slip and when the customer came in it was entered incorrectly. The customer was a business customer. He came in and deposited £1,000 and on the system we have entered £2,000. When we identified the problem, after doing the checks on the system, we found which customer it was. We approached that customer. He obviously checked with his bank and he found out what the situation was and he came in and gave us another 1,000.

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Q Yes, so this is a situation where there is an error occurred on the computer or not on the computer. It is a manual error. A. It is a manual error.

F

Q With staff trained to the calibre which you wish them to be, a high standard.

G

A. Yes, they are but they are, but obviously they are human and they obviously make mistakes and it is identifying where the mistakes have been made, and finding out what they have done and seeing where it could have gone wrong and checking all of the-

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Q And it was an error where you would have suffered the loss of £1,000 without the extensive investigations that you had carried out. A. If I had decided to leave it at that then it would have been a loss to myself, yes.

Q And can I ask you to look at call 125, 18th of August 2008? A. Yes.

A Q And there you are saying that you offered (that is you the postmaster) there is a
complaint, you needed guidance on an AP reversal but you are saying do not transfer it
because the office is too busy. It is a busy post office. A. Depending on
B circumstances. I mean if you have customers waiting and you are on the phone then
obviously it is not wise to be on the phone while the customers are waiting. If you
C have two or three customers, you can either look to those customers and attend to them
and attend to the calls afterwards.

D Q If I then go to call numbers 127 and 128 these are 10th of December 2008: "Postmaster
has a message on screen, 'You are losing until the branch is rolled over into the next
E trading period. Stock unit BB rolled into the current trading period 42 days ago.' And
then postmaster had to do a stock unit roll over error to do with trans-archiving, spoke
F to Chesterfield and no fault found with software. NSP [and that is Chesterfield] think
PM has rolled a stock over. Early system is saying that some stocks have been
G archived." So basically you have a query and you cannot actually retrieve the
transaction records, can you? [Pause]. Something has come up long after the event or
H however the time period (I do not know) but it is not a question of you just looking at
your records to be able to carry out your investigation. You cannot get the records, can
you? A. You can. What this is indicating is when you roll over your system at
the end of each trading period and if for one reason or another one of your staff has
rolled one of their stock units into a trading period in advance, and you have to bring
all of the others up to date, then according to the post office there would be a
differential between your own trading period to what the system is saying. So every
time you would be on this catching up game and it would be saying you are out of time
or you are lagging behind.

A Q So it is a problem that has arisen by you or one of your staff inputting incorrect information into the Horizon system. A. Yes, in a sense, yes.

B Q Which shows that you have errors which is not found out until much later and it is for you to do the investigation to tell the post office in actual fact there is not an error, not a financial error. It is just that the trading periods have not been properly calculated.

C A. Yes, that does not make any difference to the system as it is working, because you are working in a different trading period which the post office, as an example, if we should have been in trading period 6 and we rolled over into a trading period 8, the only thing that is missing is a trading period 7 but as far as the calculations are concerned and your history of reports they can still be obtained.

D Q Well, they should be but it could show up significant errors and because you would have to settle unless you actually were to go through all of the mathematics and paperwork again. A. That we never experienced.

E Q Right, thank you very much.

Re-examined by MR. TATFORD.

F Q So the system has suffered glitches. A. Yes.

Q Have any of those glitches been long lasting? A. No.

G Q Have any of the glitches caused a loss on your accounts? A. Not that I would say, 'Hang on a second, I can't identify these losses.' And I needed to look into it and there has been substantial or the staff had said there is no way they had made those losses, never.

H Q Have you ever come across a loss that you were not able to find the explanation for? A. I have not, no.

Q And if you find the loss, if you find when you are doing say a cash declaration at the

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end of the day and you find that the computer thinks that there is more money than you have actually counted, what do you do? A. You start looking into the system to

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find out what has happened, just, like, we could not find out initially the staff why they had a £1,000 loss. They had to look into the system to see what went on for the whole day and to look at the transaction logs for the whole day to see what could possibly have gone on. When it came to the £1,000 loss, we actually identified that it has to be

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a business-banking customer. We looked at all of our banking customers for that particular day and got in touch with them and they said, yes, and that was the situation and so if anything like that did happen, we would actually look into it and see what it is.

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Q And so with that business customer you chased it up. A. Yes, we did.

Q What would have happened if you had not chased it up? A. Then it would have been a loss to me.

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Q Have you ever come across a loss that you did not have time to investigate? A. Generally the answer is no, purely because any substantial losses I would definitely look into it.

F

Q Why would you do that? A. Because I have got to pay for it, as simple as that. Why would I just leave losses on the system and not look into it and find out why I had incurred that loss?

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Q Does your honour have any question of the witness?

JUDGE STEWART: No, thank you. Sorry you had to come back.

Witness withdrew.

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MR. HADRILL: Your honour, perhaps I can call Professor McLachlan so that the jury and everybody else have the benefit of hearing both experts together.

JUDGE STEWART: Yes.

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PROFESSOR CHARLES McLACHLAN, sworn,
Examined by MR. HADRILL.

Q Your full names, please, professor. A. Charles Alistair McLachlan.

B

Q And in regard to your being in court today can I just deal with why. Do you have any expertise in computers and understanding of computers? A. I have been involved with computers since I was 13 years old.

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Q And I will not ask your age but a significant period of time. A. Yes.

Q Now the terms of reference is page 27 of your honour's bundle. You are a director of Amsphere Consulting which is in London and it specialises in the information technology consulting business. A. Correct.

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Q And in fact you have been instructed by solicitors who represent the defendant Miss Misra in order to carry out an investigation of the post office Horizon Fujitsu computer system and to report on its integrity. A. That is correct.

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Q And that is what you have endeavoured to do. A. That is what I have sought to do.

Q And active involvement in the summer of last year, you provided, we understand, an interim report setting out a number of hypotheses and that was in September and various other reports have followed thereafter. A. That is the case.

F

Q At the time of instruction did you have any knowledge of the Horizon Fujitsu computer system? A. I had no knowledge of it at all.

G

Q So in order to get information for you to report, what did you require? A. Well, I took a view about the kind of things that might have gone wrong in a system such as Horizon and then I requested that I should have access to the information and the people that would enable me to investigate the whole post office system.

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Q So did you take your duties as an expert seriously? A. I want to be able to form an independent view so that when I speak under cross-examination in court or to submit a report and I can be confident about any opinion I offer.

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Q Now you drew a number of hypotheses or raised a number of hypotheses. What is the purpose of raising hypotheses? Can you give the thought process behind that?

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A. Because I did not know anything about the Horizon system or indeed any of the other post office systems, I wanted to outline some things that were worth investigating so that the court would be aware of the kind of evidence and interviews I would need to conduct in order to take a view as to whether the defendant had problems with the system she was using.

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Q And you raised a series of hypotheses; but before we go into that, you clearly then had the report or a statement from Mr. Jenkins on 5th February but there is a statement dated 2nd February, was that the first opportunity since you raised it in your interim report in September 2009 in regard to contact with another expert on the other side.

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A. That is correct.

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Q And did you take advantage of that name and contact or that contact name? A. I certainly did.

G

Q And we see in the bundle first volume which is page 51 and I have taken Mr. Jenkins through this that he provided you with a flowchart which says 'Horizon architecture diagrams' as a series of computer or assistance documents in regard to understanding the running of a computer programme. A. Yes.

H

Q And I have already put this to Mr. Jenkins, it says, 'The purpose of this note is to pull together some higher level architecture diagrams of the Horizon.' It is based on extracts from informal document and so I put to him the fact that they are not working

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documents and they have not been signed off and that this is something he has pulled together to assist you. A. That is correct. So they are not documents that have

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been signed off as the state of the system as agreed between post office and Fujitsu. They are informal documents which help me to have some understanding about what is going on.

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Q Has that caused any surprise that they have not been signed off that they are just informal documents? A. When I am instructing an expert, I would expect to have access to the formal specifications that have been signed off by the parties and that are relevant to the period for which the case is running so that I have got stuff which has been authenticated, if you like, by in this case the post office and Fujitsu.

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Q Well, it has been pulled together and it is an informal document but it gives you assistance, does it? A. It gives me a certain level of assistance. The important thing for me to then do is to have a conversation with the people who have been involved in putting the system together so that I can walk through it with them and understand in more detail what is here. In this kind of document, there is lots of terminology and that terminology is always used in a specific way and in a specific context so, without a walk through, all it does is to highlight things that I needed to know rather than giving me a definitive answer.

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Q But clearly this shows you looking at the square marked on the document showing what is the remit of Horizon and what is outside their remit. A. That is correct.

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Q So it give you some understanding of what the Horizon system deals with and with those document you can sit and read and then start to ask further informed questions. A. That is correct.

Q And what I want to deal with is your qualifications, because you told us you have been

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interested in computers since 13. I just want to go through your understanding of computer systems and it is at page 27 our bundle not in the jury because it is obviously torn out and if I can go through your background and why you were selected as an independent adviser. All right? A. Thank you.

B

Q So at 5.2.1: "I have been working in the software industry since my first job at the age of 17, writing software analysis that results from a particle accelerator for the UK Atomic Energy Authority." Well, what is that all about? A. I was put in hangar

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with a nuclear reactor and a couple of particle accelerators and asked to write some software to analyse the information that came out of the experiments' results they were running.

D

Q Very technical. A. Yes.

Q You then undertook a masters (an MA) in computer science at Cambridge University matriculating in 1979. A. Correct.

E

Q You developed software for environmental control for a company on the Cambridge science park whilst still a student at university. A. Correct.

F

Q You were actually then, having finished your degree, kept by Cambridge University to teach undergraduates. A. That is correct.

G

Q That was for three years. And after university you worked for a company that was set up by the emeritus professor of computer science at Imperial College and he was the founder of the IBM UK Hursley laboratories. A. Correct.

H

Q Which is a significant computing and research organisation. A. The IBM UK Hursley laboratories are their central research and development organisation in the UK.

Q You developed PC multitasking office automation software for IBM. A. In fact the software was for the professor emeritus, but it was for clients such as Unilever.

A

Q You acted as an IT consultant and you advised, was it, Hewlett Packard? A. That is correct.

B

Q On their Unix strategy. Well, what is Unix strategy? A. So there are various operating systems that are used to provide an environment in which you can run programmes, and at that particular time Hewlett Packard were considering whether they should use an operating system called Unix or whether they should carry on with their proprietary operating systems which they had built. So in the world in which we are today there are really two operating systems: there is the Windows operating system which you will be familiar with at home and then there are a whole range of different Unix operating systems, and the Apple Mac for example runs on the Unix operating systems and we were involved in advising in regard to the development of those programmes, advising on whether to adopt Unix or not.

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Q "And hosted Inmus(?) parallel processors in PC." Well, that obviously sounds fairly complex as well. Is it or not? A. There was an initiative sponsored by the UK government to develop parallel processing in the early 1980s, which was groundbreaking the technology and the idea was to make it more accessible to other people by plugging it into an ordinary IBM PC so that you could have an IBM PC plus a parallel processor.

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G

Q Which is presumably what we all use today, is it? A. Your PC today will have parallel processing in it, yes.

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Q And you were involved in the early stages of making sure that we had the computer technology. A. It was associated with that problem.

Q You have built extensive financial performance analysis systems for building societies. A. In 1986, the building society industry was de-regulated. Prior to that a large

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number of organisations were interested in how building societies performed. There was a lot of public domain information, built a complex analysis system for working out the various performance indicators of building societies across the UK.

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Q In 1987 you became a founding partner of CMJP Associates which delivered software development services to a wide range of clients using PC and compliance server technologies. Can you just explain what that is all about? A. So PCs in those days

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were quite primitive, as you are probably aware. So this is 1987 or 1988, but there were also emerging ways of running software where you had quite a sophisticated programme running on the PC and that was called the client and then at the back end

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you would have probably a database and that was the server and that allowed you to write very complex and powerful programmes without having to use a mainframe computer.

E

Q And relying upon that as being part of that business you were part of project which included development of accounting modules and work for the financial services industries including the banks SG Warburg, GNI of the London International Financial Futures Exchange, LIFFE. Correct? A. Correct.

F

Q Complex? A. That was fairly complex, yes.

Q In 1991, you established a partnership for the CMJP Association, providing expert advice to the client server centre of excellence. A. Correct.

G

Q So you would give advice and support to them. A. We provided them with technical expertise to help them to build re-useable architectures, re-useable components so when they were providing applications to their client they had a pre-built set of things that they could have a fast start with, rather than building everything from scratch each time.

H

- A Q In July of 1993, you became a founding technical director of Infonet systems which focused upon building leading edge object-oriented client server solutions. Can you explain just briefly what that is all about? A. So I have explained what client server solutions are. There is a way of thinking about how you design a computer programme which was relatively novel at that time, which was called object-oriented, and the idea was you try and think about the problem of designing a computer system using analogies from everyday life, and so, if I think of a person, there is information about that person, but there is also things that person can do and when you were building a computer system, you would treat that as an object which carries both information and methods of doing things and ability to do things, and so it is bringing data and action together and that was a novel way of thinking about computer problems and actually a much more powerful way of thinking about computer problems.
- E Q I think your first success was the delivery of a complete front office trading platform for the financial derivatives reposing bonds. Is that right? A. Correct.
- F Q And this led to the first NT-based client server-trading desk in the City of London? A. Correct.
- G Q And you developed the object-orientated just-in-time software for the development of technology which you have just explained. A. Correct. I think you have heard what NT is from Mr. Jenkins.
- H Q New technology. A. Yes.
- Q December 1996, you were recruited by the European headquarters of an emerging internet service provider UUNet which became MCI Worldcom and you advised on IP billing and customer provisioning system. What is IP billing? A. So today if you

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have a broadband connection so that you can send e-mails and download videos and things then that is provided by an IP connection, and in the early days of the internet people were trying to work out how you could actually charge people for the amount of traffic, the amount of download that they used and that was called IP billing, and then the customer provisioning was all of the challenges you faced of persuading BT to connect your customer to your network so that is the provisioning.

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Q And you advised upon all of that service industry and were involved in it.
A. Correct.

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Q And you also undertook critical review of the implementation and customisation of the GAC smartstream ERP solutions for the accountants Arthur Anderson Business Consulting. Well, what is all of that about? A. So UUNet, their business was growing so quickly that they wanted to have a proper system that they could use to track everything that was going on and they had asked an organisation called Arthur Anderson Business Consulting to implement that for them. They were not entirely happy with the result that they got so they asked me to take an independent view of how good the implementation was and to suggest places where that could be improved and so that is what I did for UUNet.

G

Q And that led to you being recruited nine months later or eight months in August 1997 by Arthur Anderson Business Consulting to provide technology leadership for the new advanced technology division which they were creating. A. Correct.

H

Q And over the next five years you became the international thought leader in the group in the building of software-related services to underpin the development of Anderson's new media and e-business practice. A. Correct.

Q And you were elected to a partnership with Arthur Anderson in 2000. A. That is

correct.

A

Q In recognition of your services. You early identified the crucial role for Java technologies and the just-in-time business technology development methods and positioning that in emerging businesses and the rapid growth of the internet to become the ninth global by Q3. Explain what all that is about, Java and having to get used to the business and technology development and advising involvement in its implementation.

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A. So for me this was a transition from being, if you like, a pure 'tecky' to working in a business consulting environment and one of the things that became apparent to me was there was this very interesting software programming language called Java, which was emerging at that time and at Arthur Anderson business consulting we were fairly new to providing technology services and therefore we wanted to leapfrog the opposition by adopting a new technology faster and more effectively than anybody else, and so we adopted Java as a key part our strategy and on the back of that we built up a business consulting practice which became the ninth in size over the next couple of years. That was what the focus was to build up a technology service practice pretty much from scratch within Arthur Anderson and within their business consulting divisions.

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Q Let us deal with major systems delivery projects. So you were involved in the software development and related services for revenue in regard to growing areas and consulting organisations on that between 1997 and 2002. Your team which you led was involved in projects for clients which included Sky.com, Timeout.com, Mytravel.com, [inaudible], Pan-European, Budget Rent-a-Car and you were engaged in technical delivery, expert advice to these new major systems and trading exchanges, a high throughput customer services, transaction processing and content management.

A Now what does all of that mean? A. Okay, so this was an exciting time when everybody in the large businesses was discovering the internet for the first time and Sky broadcasting, they decided that they wanted to build a very powerful sports site in time for the new football season and we were engaged to provide a number of services to put that together so that they would have an exciting site for all of their customers for looking at what was going on in the football.

C With Timeout.com, Timeout was an established magazine in London, a listings magazine in London, and they decided they wanted to have an online website and they wanted to create a version of the publication online and advertising and various ways of looking things up and so we helped them to build that.

D Mytravel.com, Mytravel was the internet brand of a whole range of different tour operators which was established from scratch and we helped build their first website and their multimedia strategy.

E And Sendnet, Move.co.uk, you are probably familiar with estate agents. It is now very common to look at an estate agents' site to try and find property, Move.co.uk was one of the first of those which allowed you to look up properties anywhere in the country and try and find out things about those properties before you went and visited them.

G Q I suppose Budget Rent-a-car speaks for itself. A. Budget Rent-a-car were going through a transition where they wanted to have a new system across the whole of Europe before the millennium bug destroyed their ability to run their old systems so that was quite high pressure.

H Q What I want to do is to get the breadth of your understanding of computer deliveries so there is accounting, finance, media in regard to customer services for cars and

A magazines. It is the full width of the computer industry. A. It is a whole range of things, yes.

Q You have a wide understanding of computer problems and requirements and systems.

B A. Yes, and the different kinds of users that you get and the different kinds of environments.

Q Solution development, you provided technology leadership for the development of key global solutions for the PC, including e-strategy e-business, content management Rent-a-car

D JUDGE STEWART: I think, Mr. Hadrill, you can take it that the jury are getting the picture and I do not know whether it is necessary to list every organisation that Mr. McLachlan has assisted.

E MR. HADRILL: You were involved in satellite broadband, community projects, business enterprise, and small business enterprise. You were employed by JP Morgan Chase (the bank), XML the big group for accountants and you were associate editor of the Butler Group on IT strategy and you have a wealth of experience and people turn to you for advice. A. That is the case

F Q So it comes as a bit of a shock to be dealing with a crown court case at Guildford. It is the first time that you have given evidence in the crown court, is it not? A. I have never been an expert in the crown court before.

G Q You have been an expert in the high court proceedings for various arbitrations between international companies. A. It is international chamber of commerce arbitration which is a confidential process and it was not actually in the high court.

H Q Right, but that is involving three national banks and international providers, you have been involved in high court actions and proceedings for international mobile telephone

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operators and established mobile phone companies and integrators and systems and so on and so forth. A. Correct.

B

Q So you come here, as it were, as an experienced [inaudible] to give evidence in this court. A. This is a new experience for me.

C

Q So I just want to go through then that you have been asked by a firm of solicitors who represent Miss Misra to carry out, as it were, a short investigation to approve the system, the Horizon Fujitsu system. Have you managed to conclude that investigation? A. I have done as much investigation as I could do based upon the information that was made available to me in the time since I was first instructed in the middle of last year through to the latest information that I provided earlier this week.

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Q Is that sufficient? A. I would not normally want to do an investigation with as many restrictions as I have had imposed on me as I have in this particular case.

E

Q But you have no complaint against Mr. Jenkins who is your point of contact, have you? A. Mr. Jenkins has given me every assistance that he can do, although he is limited by the fact that he relies upon the post office to instruct him to provide his time for the benefit of this case.

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Q Anyway, you raised in your report three initial hypotheses and it is page 5, your honour, and so this is your starting block, as it were, and you raise essentially three hypotheses. "In order to properly consider the issues that could arise from a computer such as the Horizon system in the context of the operation of a sub-post office there are three hypotheses which I would seek to test in my report." A. Correct.

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Q Is it fair for you to raise three hypotheses from your experience and understanding? A. These are the hypotheses that, in my opinion, would be the hypotheses that would be relevant to the problems that could arise in a system such as the post office systems.

- A Q (1) The user interface gives rise to incorrect data entry and then you said, "Poor user experience design or inadequate user expertise can give rise to poor data entry quality." I will go through this in a second. "In cases that users are working under pressure or
- B are insufficiently trained or are using a system presented in a language different from their first language, the problems of data entry can be exacerbated." So breaking that hypothesis into a number of sub-clauses. A. So the first thing is that the user interface could give rise to incorrect data entry.
- C Q That is the screen. A. It is all of the different parts of the user interface, so if you think about what happens with the system that is provided in the sub-post office, I
- D think you have heard that we have a keyboard, we have a swipe card, we have a barcode reader, we have a touch screen and we have a PIN pad for people to put debit and credit cards into and so there are a number of components of the user interface, if
- E you like. So if the user experience design--
- F Q That is the cashier or the person operating it in the sub-post office, is it? A. Correct. So the poor user experience design, *i.e.*, the way that you set up the system for the user to interact and inadequate user experience testing and so whether you have actually done formal testing to see whether your design works that can give rise to
- G poor data entry quality. So people make mistakes because the system is designed in such a way that it is easy to make mistakes.
- H Q Now we have heard Mr. Jenkins give evidence of what he considers the practicalities and the easy use of this screen and we have heard from Mr. Bayfield, the field manager, and he says he finds it easy but he is biased; those essentially were his comments. He knows that mistakes can be made on it. What sort of tests would you like to carry out or to have seen carried out to ensure that the screen is user friendly?

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A. Well, the obvious thing to do is to observe the use of the screen in a live situation and record that use and compare it to what is captured by the terminal and what is recorded in the various logs so that you then have the ability to compare what the user did when they touched the screen; what the actual result was on the computer; what the various pieces of paper were that were at the counter and what was recorded centrally; and there is very cheap available technology that is used to test the user experience and indeed we approached the post office for the opportunity to do that, and we were told that they had used that kind of technology when they were looking at the performance of the system in the early stages of development of Fujitsu to make sure they had the right throughput; but they were unable to provide us with the records of those tests and we did not have the opportunity to conduct those tests ourselves.

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Q Would you like to have carried out those tests yourselves? A. I felt it was very important to carry out those tests because when I visited a post office in the Midlands—

Q I will come to that in a second. I know we cannot deal with conversations but you yourself were not permitted to carry out those tests. A. That is correct.

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Q And you have just raised other possibilities, cashiers working under pressure that you would like to see in regard to cashiers working under pressure on a day with huge queues and how they reacted with the screens as well. A. Correct.

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Q You then raised a second hypothesis. This Horizon system fails to properly process transactions and this could possibly be accounting systems are usually carefully designed to ensure that accounts balance after each with a double entry transaction, which is what we heard: You sell a book of stamps, you take it out of stock and it makes the cash greater. In particular, a database technology referred to as 'two-face commit,' you have just raised that. You are happy that it exists. A. Yes, when I

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started my investigation I did not know what the technology was. I assumed that a robust technology would have been put in place and I assumed it would have these features and Mr. Jenkins was able to confirm that it did have those features.

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Q And so they had a concern that basically the Horizon system basically fails to properly process transactions and that is a hypothesis you were to later to investigate later on.

A. That is right, a computer system can have problems. It could be an explanation of the facts that were presented to me.

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Q And then the third hypothesis, external system so we are now looking at the architecture that little plan and the guidance provided to you by Mr. Jenkins on 8th of March of this year. We can see from that there is a lot happening outside the control of Horizon. A. Correct.

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Q So your third hypothesis external systems across the wider Post Office Ltd operating environment provide incorrect externally entered information to the Horizon accounts system or operator error from Horizon: for example, incorrect transaction corrections are submitted from the central systems for acceptance by the sub-postmaster. And so basically this is outside of the Horizon system, someone is manually keying in information for corrections which comes down through the pipeline, through Fujitsu to the sub-post office saying that there are errors. You wanted to look outside the Fujitsu system to look at the Post Office Ltd operating environment. A. Correct. In my

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view, the system consisted not just of horizon but all of the other systems that were involved in supporting a sub-postmaster and the processes and the people that helped to deliver that system.

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Q Did you think it important, as an expert, to deliver a considered report that you would need to look at that? A. I would have expected that parties would have wanted me

- A to look at that to give a proper opinion.
- Q Have you been able to look at that? A. I have had no access to any of the external systems and no information beyond what was provided by Mr. Jenkins in the document that you have pointed me to in this interview.
- Q So let us then turn to the summary of your findings. You tell us that your findings are subject to certain limitations, because you were unable to pursue your investigations, which may have impacted upon your ability to provide a complete picture.
- A. That is correct.
- Q And you accept that when Mr. Tatford was asking Mr. Jenkins to say they are hypotheses that is what they remain, do they not? A. They do remain hypotheses, yes.
- Q Why? A. Because to a large extent I have not been able to collect or review the information that would be necessary to fully test them so there is some partial evidence that provides some information as to whether the hypotheses are supported or not; but it is very difficult for me to give a definitive opinion in relation to each of those three hypotheses.
- Q So reliance on Fujitsu and I think that you have been completely reliant upon information from Mr. Jenkins of Fujitsu and he has provided you with every possible assistance, subject to his instructions by his employers. A. His employers and also by the Post Office.
- Q And what you understand is that Fujitsu were originally contracted to design build and operate the Horizon system and they continue to manage and develop the system under contract to the Post Office. A. That is what I understand.
- Q And they have recently been awarded, have Fujitsu, a further contract to manage and

- A develop other systems in the Post Office. A. That is my understanding.
- Q And you asked in regard to compiling the report that Mr. Jenkins assist by explaining interface of the Horizon system to the Post Office Ltd, but as he has told us in court he was unable to comment on anything in the Post Office Ltd's domain.
- B A. Correct.
- Q His remit was purely Horizon and so dealing with independent investigation you have had no opportunity to carry out post office investigation under test conditions of the screen and Horizon system. A. Neither test condition or a live environment.
- C
- Q And you have had no opportunity to observe and review training given to sub-postmasters. A. I have had no opportunity to review training given to sub-postmasters.
- D
- Q You have had no opportunity to examine logs of defects or change requests, although that perhaps does not necessarily assist you too much or would it have been of assistance? A. It was of huge assistance to have some access to the peak report about the problem in Scotland at Callendar Square, because I have not been provided with all of those peak reports for the period in question, I am unable to comment on whether there are any other problems that could have had a similar impact on a sub-post office and I was unable to investigate whether those problems, if they did exist, could have been the source of issues at West Byfleet.
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- G Q You have had no opportunity to understand and review the processing systems of the post office environment outside of Horizon. A. That is correct.
- H Q It has not been possible to examine the process for introducing transaction corrections into the Horizon system by the post office outside of the Horizon system.
- A. That is correct.

A

Q It has not been possible to examine the processes for remittances, that is movement of cash and stock outside of the branch and we heard about this house which was a counting house and you have had no opportunity to see the processes there. A. I have not.

B

Q I do not think foreign currency now worries you and we have discussed that with Mr. Jenkins and we can leave that from your list of-- A. I am very confident that Mr. Jenkins has given me a full explanation about how foreign currencies are revalued. I have no concern about that.

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Q And you have not been able to examine the processes of reconciliation conducted by the post office that could give rise to them making transaction corrections. A. Correct.

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Q Be that as it may, you are instructed to write a report on what you have been given and to try and assist us and the jury on your expert opinion from your experience over the years which you have achieved and the material that you have been provided. A. Yes.

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Q So can I just deal with 2.2.2, 'opportunities for reconciliation'? In the normal process of investigating the consistent operation of a system and so you want to see whether it is consistent in its delivery. Yes? A. That is correct. So when you put something onto the system, when people operate the system, does it work in a consistent way? So one of my hypotheses was that the technology did not work and one of my hypotheses was that the users did not use the technology properly for some reason, and so, in order to examine that, you want to be able to, in effect, conduct an audit of the conduct of a sub-post office for a period of time and compare that to the records maintained by the computer system.

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- A Q End-to-end, basically. A. Correct.
- B Q And if you have been given access from end-to-end, what would you expect to discover? A. If you have been given access from end-to-end I would expect to have access to all of the transactions logs, not only just within Horizon but also within the other systems that feed into Horizon and take outputs from Horizon and I would also expect to take a look at the paper vouchers, cheques and things like that that were used by the sub-post office and were passed back to the centre and used for reconciliation purposes so you would not what to look at this for a whole period of, say, 22 months. What you would want to do is to have a snapshot, a sample and see that you could be confident that the process was working end-to-end, in general and then, if there were any particular issues that emerged where you had concerns, you could investigate those in more detail.
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- E Q So the Horizon system has been designed to operate as an accounting system and designed to ensure that for every set of credits there is a matching set of debits. It is the double accounting. A. Yes.
- F Q Which is obviously the purpose of any computing or accounting system. A. Yes.
- G Q And you would like to see, well, in the set of transaction paths you have been provided it appears that the design constraint, *i.e.*, that if you sell a pack of stamps the cash will go in the till and the basic programme seems to meet that requirement. A. I would put it a slightly different way, which is that the system will not record something unless there is a matching transaction and so the way in the 450,000 records that I got from the transaction log when you add up all of the stuff on the one side and all of the other stuff on the other side, they balance and so the system has been designed to make sure that double entry works and so from that point of view it prevents you from
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- A entering something that does not balance.
- Q But we know from Mr. Jenkins that this computer system is being developed in order to ensure there is little paper use in the sub-post office, *i.e.* that if an entry is entered you do not get a hard copy issued from the machine. A. My understanding from
- B listening to the other witnesses is that you do not get a hard copy in every single case.
- Q Now in regard to what you have seen of the Horizon system, it is suggested that Mr. Jenkins suggests, well, you do not get hard copies in supermarkets so it is accepted
- C practice. What is your view from your breadth of experience? A. I have not seen people retaining hard copies in supermarkets but as I listened to the evidence of both
- D the trainer and Mr. Jenkins and as I reviewed the actual kind of transactions that went on at the sub-post office, I think we are three of us of one mind that this is very much a mini-bank rather than an organisation that spends its time selling stamps; a relatively small amount of the transactions are selling stamps.
- E Q And you have computer programming experience and design and technology for banks, have you not? A. I have spent time investigating banking systems and I have spent time writing banking systems
- F Q And so, if this were comparable to a bank, would you expect hard copies to be printed out? A. I would expect copies, *i.e.*, vouchers or handwritten notes to be maintained
- G so that every teller, every counter operator could balance their till at the end of each shift and if there was any discrepancies then they would have a piece of paper which would allow them then and there to work out what the discrepancies were.
- H Q We are used to going to banks. What you are saying is that as the slip is kept behind the counter after it has been stamped or if there is cash passed there is a printout from the machine which gets put to the stack by the window. What is the purpose of that

- A stack of all of these documents of each transaction? A. Well, the purpose of the stack is to make sure that the till balances but also that, if there is ever any query, you have evidence to demonstrate exactly what happened at the time on paper.
- B Q And was that hard copy documentation available to the sub-post office because of the Horizon system? A. Not in the way that you would expect if it was a bank, because for many transactions there was not automatically some piece of paper produced that would allow you to check at the end of your shift whether there was some error or not and where that error had come from.
- C Q We have been told certainly by Mr. Bayfield and Mr. Vasarmy that at the end of the day you can press a button and it will just give you all of the transactions. A. I have seen reports of that nature which give you all of the transactions but for some of the transactions they are summarised, so you cannot see the individual ones in the report unless you do an investigation, and if you have not got the paper voucher at the time it is quite difficult to see what mistakes were made, whether you have overpaid or underpaid, and so when you have a discrepancy it can be very difficult to track down and you may not even have the evidence that would allow you to track it down so that you can definitively say what happened.
- D Q So you have dealt with the fact that the system has been designed not to provide automatically vouchers and hard copies. A. That is correct, because the sub-postmaster is expected to sort it out and if they cannot sort it out then they are expected to pay and so from the post office's point of view there is no need to provide these: they are a barrier to doing business and they slow things down and they cost money in terms of consumables and, at the end of the day, the sub-postmaster is responsible for making sure that anything that is lost is made good.
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- A Q So this does not – well, Fujitsu have just provided the equipment and programme [inaudible] which they have been asked to provide by the Post Office. A. That is correct.
- B Q But because of the lack of hard copies it has not been possible to reconcile the Horizon branch records to the actual transactions undertaken. A. That is correct. So what I was provided with was a computer record of information that had been passed back from the sub-post office to the central Fujitsu data centre; but I had nothing to compare that with in terms of the paper that had been captured at the time in the sub-post office so I could not say whether those records were correct or incorrect because there was nothing I could compare them with.
- C Q Because that is the system that is in operation. A. Correct.
- D Q Now the touch screens and user friendly, we have had provided to us by Mr. Jenkins a set of guidelines which were issued by the Post Office, setting the parameters or requirements of what this equipment should meet. A. Yes.
- E Q Have you seen anything independent to confirm that it has met those requirements? A. No.
- F Q Have you been able to undertake a check to see whether you with your experience would say whether it met those requirements? A. I have had no opportunity to examine the usage of the system in a live environment under video observation and so I have not been able to make an independent assessment of that or indeed engage an expert in user interface and human computer interaction, who could take a view about whether it is suitable for the operations that had been conducted by sub-postmasters.
- G H Q “2.3.1, incorrectly calibrated touch machines.” We know in the report of Mr. Dunks that there were several hardware calls to Fujitsu talking about the screen needing

- A recalibration, screen not working and so on. I am not going to go through all of that again. My learned friend can go through it all. What does that show to you? A. It shows to me that the users of the West Byfleet system had occasions in which they observed that the screen was not operating in the way that they expected and therefore they rang up the Fujitsu help desk and asked them what to do.
- B
- Q And either screens were replaced or recalibrated and how do you recalibrate a screen?
- C A. In essence, what you do is you go through a process of getting the screen to marry up where you put your finger on the screen to, if you like, the pad behind the finger so the way a touch screen works is when you put the finger on the screen, it has a view about where your finger is and you try and marry that up to the button that is on the screen so that the computer will make sure or the screen itself will make sure the pad and your finger lined up and there is a process where you can touch different parts of the screen and it can line itself up again.
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- Q So you can see or have been told by Mr. Jenkins the screen is about the same as the A4 images or the images within the A4 documentation, would you accept that? A. I am confident that that is true. He said that actually it may be a little bit larger on paper than it is on the screen but it is the right kind of scale.
- F
- Q And so that could lead to errors and the need to re-calibrate and that is the intention of the clerk or the postmaster to make sure that if you are pressing a 0 or a 2 it is coming out as a 0 or 2 and not 3 and 00. A. My concern was that there could be a situation in which that would occur and my concern was increased by the fact that there was evidence that these screens did need recalibration, and my assumption would be that once a user had rung up two or three times to ask what to do then they would do it themselves without asking, and so my assumption would be that the number of times
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- A the screens are recalibrated is not fully recorded in the report of Mr. Dunks.
- Q But if it is improperly calibrated or there are errors with the calibration what does that do to the financial transactions of the Horizon system? A. The risk is that you tell the system that you are collecting more money than the person gives you over the counter or you tell the system that you are collecting less money than the person has given you over the counter, and in either of those two cases it will give you a discrepancy and that discrepancy, if it is not in your favour, as a sub-postmaster, you would have to make good.
- Q Anyway you have not been able to assess the impact of poor screen calibration on data entry, have you? A. I have not been able to assess that, no.
- Q So what you are doing is giving guidance to the jury on what you see in the Dunks report and your hypotheses and concerns which you would like to be concluded one way or the other. A. I can't offer an opinion. All I can do is highlight that those are concerns.
- Q "2.3.2 poor user interface design [you say this], the poor user interface design can lead to poor data entry and user errors;" the layout of the screen basically and all of the levels and tiers you have to go down by punching buttons. A. Yes, what happens is that you get used to the screen being in a certain sequence. You tend to operate it very much by habit, rather than by what you actually see as you become an experienced user and sometimes you can then, because you are operating by habit, you are not looking at the screen properly and therefore you can press things in error, and if the system does not tell you that you have done something unexpected or if two similar kinds of operations are in the same part of the screen or if it is more complicated than you expect then you can start to introduce errors.

A Q [Inaudible] in supermarkets (as I put it to Mr. Jenkins) that at the end of a transaction a cashier would know it is the end of the transaction because the till just pops open.

B A. That is my experience of watching supermarkets. The post offices that I went and visited, none of them had those kinds of drawers. They had the kinds of drawers that you would have in a desk and you pulled it open yourself.

C Q So pop-out tills could be of assistance to a cashier who has entered information incorrectly, thinking a deal or a transaction has been cleared, in a sense not to be carried forward, and in actual fact the machine has entered it as being a completed transaction.

D A. Yes, or you could just have a bell and you would not necessarily need to have a pop-out till, but a bell would do.

E Q So the fast cash we have heard quite a bit about this so tell us what it is all about.

F A. I think we heard Mr. Jenkins explain that as you put a number of items, I suppose the easiest analogy is if you have ever bought anything over the internet you put a number of items into a basket and it calculates as you go along the cost of all of the things you are planning to buy, and then at then at the end you say, 'Okay, I am ready to pay,' and it has totted it all up and says this is what you need to pay and so in effect on one of those internet buying sites, you press, 'I am going to buy now' and it totals it all up and gives you a number to pay with your credit card.

G Well, on the post office system it will do all of that calculation and then you can have a bill with a whole series of different kinds of methods of payment so it might be that part of what you pay is a cheque, because you are paying your water bill with a cheque; part of what you are doing is you are paying your television licence and so you pay that with a credit card; and part of what you are doing is you are buying some stamps and you want to pay for that with cash; and so once you have the cheque

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A registered on the system and once you have the credit card registered on the system,
then you press the fast cash button and it will say, 'Now you need to collect from the
customer an additional 30 or 40 pence for the stamps,' because it has worked that all
B our for you and so that makes it easy for the operator to conclude the transaction.

C And what I suspected, which I have not been able to investigate, what I
suspected is that because this is a very easy way of finishing a transaction, operators
might get used to whenever they bring a transaction to an end, just press the fast cash
D button; it is bit like the end of job button or the basket full button. Now if you at that
point had had a credit card or a debit card refused and you immediately pressed the fast
cash button what the system would do is it would say, 'Okay, well, we have not got
any money from the debit card so we are assuming that the person is going to give us
this cash over the counter.' And the possibility is that the counter staff member does
E not notice that that is what the system is assuming, and therefore they do not collect the
cash from the customer, because it thinks it has been paid for by a debit card but there
are all sorts of other situations as well as the debit card problem, where using the fast
F cash button could end up with the counter staff person telling the system that they had
collected cash which in fact they had not collected, and so if somebody gave you a
cheque for £100 and the water bill was £160 you would put in the information in for
the £100 and press the fast cash button and the system would assume that the person
G had also given you £60 over the counter.

Q Which it has not. A. Which it has not.

H JUDGE STEWART: I did not quite catch that last bit. Water bill, £160, customer gives you
a cheque for £100. A. Yes. You then press the fast cash button—

Q What have you entered in relation to the cheque for £100? A. You have entered

£100.

A

Q Yes. A. You press the fast cash button to finish the transaction.

B

Q Yes. A. The system says, 'Okay, there is £60 outstanding. I believe (the system) that you have collected £60 cash over the counter;' but you as the operator fail to actually collect that cash because you just closed the basket and finished the stack, just finished the operation with the cheque for £100.

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MR. HADRILL: Human error. A. Human error.

Q But there is nothing on the transactions to show when people are using fast cash buttons or not, is there? A. It is not recorded as a different kind of entry.

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JUDGE STEWART: So that is just the cashier failing to collect £60 cash. A. Yes, and failing to be alert that £60 cash has not been offered

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MR. HADRILL: Because it is not dealt with as a separate transaction, the system just allows you do just the fast cash and to just roll everything into one. A. Correct.

F

Q Saves time. A. Correct.

G

Q Now again I have shown rejected cards in your schedule and I am not going to go through all of these documents here; but the debit card and credit card transactions and, if they are rejected, I have covered this with Mr. Jenkins, but perhaps if we can just hear from you from your understanding of the transactions and it will be corrected by Mr. Jenkins if it is different: so can you tell the jury, you put a card into the machine as a customer and if it is accepted by the issuing bank or financial institution, it will show that your card account has been debited by £100 or £200 or whatever and you will be given £100 or £200, as you request from the post office. A. That is correct.

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Q And if it is not cleared and it is rejected, I went through just a couple of entries

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yesterday with Mr. Jenkins to show it is rejected, it is asked the request to do with a DVLA licence, refused and then the person paid with the cheque as the computer record showed. A. Correct.

B

Q And can we just go through the scenario of how the cashier would be alert that the credit card has been rejected or the debit card? A. The assumption is that the

C

teller is alert to the fact that the credit card has been rejected. I have not had an opportunity to examine the screen and to see what messages come back to alert the teller that the credit card or debit card has been rejected but if they were aware then they could ask for an alternative method of payment. The hypothesis was that if they

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were not aware then they might just go ahead and press the fast cash button as a way of completing the transaction, and therefore they would have told the system that although they had not got any money from the credit card, they had cash handed over the counter when in fact they had not done that. Mr. Jenkins and I examined the data for the period December 2006 to December 2007 and we were agreed that there were no substantial transactions where the fast cash button had caused loss to the sub-postmaster.

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Q You have done that from the beginning of December 2006 to December 2007, neither of you have been able to or have done that for the period from 5th October 2005 to 30th November 2006. A. No, my understanding was that there were different staff

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working in that period.

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Q If that was the year before we have an extract for Mrs. Misra starts in post office June 2005. A. Correct.

Q We heard that there was an audit in October 2005. A. Correct.

Q And you and Mr. Jenkins have examined detailed information for December 2006,

A which is a year and a bit later or a year and half later from when Mrs. Misra started.

A. Correct.

Q So that is the analysis you can see from December 2006 to December 2007.

A. Correct.

B

Q We do not have analysis for the period prior to that. A. No.

Q That moves us on to--

C

JUDGE STEWART: Once again I am going to try and sort out things in my own head. As regards rejected cards, I do not know whether the members of the jury have had experience of a card being rejected but they probably have because it seems to happen to most of us because the magnetic strip is scratched or something. Is it not pretty obvious that the transaction is rejected? It just does not go through, does it? A. I don't know whether it is obvious or not because I have not had an opportunity to observe it and so it is clear that there are situations in the logs that the things have been rejected and that the reversal is not done until some time later and so that would suggest to me that it was not identified at the time. It was identified later.

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MR. HADRILL: Your honour, can I say that I have been through pages and pages of data and I am just dealing with the bald assertions but we have heard from Mr. Jenkins on this as well and he is in general agreement with you. A. I believe that there is no significant difference of opinion.

G

Q Now that leads us on to training. Now your opinion is the activities of a post office correspond to a retail bank branch. A. That is my understanding, based upon visiting post offices and based upon looking at the transactions that occur over the counter for a period of about 13 months.

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Q And you compiled an analysis which is set out in the annexes that each product during

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the 13-month period from December 2006 to December 2007 the global figure was just under £48 million. Mr. Jenkins says there is double accounting there. A. I accept that.

B

Q And so even then it is 24 million pounds. A. Yes, and if you look at the first item in that list which is actually, if you like, the sale of something physical, it is a very small proportion of the total figure.

C

Q And with regard to training, you wanted to see competence assessments in regard to the training for Miss Misra. Have you been able to see those? A. I have not.

Q We understand that they do not exist. A. That was the evidence that we heard earlier, yes.

D

Q So you do not know what level of training Miss Misra received. A. I have been told what she attended but I have no indication of the level of understanding and competence that she had when she completed that training.

E

Q So you do not know if she was adequately trained or properly understood how to operate the post office functions. A. I have not been provided with any evidence which would allow me to offer an opinion on that.

F

Q However, you have been provided with the event logs for December 2006 to December 2007 and you can draw your own conclusions from that. Can you not?

G

MR. TATFORD: Can I just raise as a matter of caution, I am sure Mr. Hadrill will stick to matters solely within the expertise of this witness. As I understand it, the expertise relates to computers. Any straying from—

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JUDGE STEWART: And computer systems and applications, yes.

MR. TATFORD: Yes, I am sure Mr. Hadrill is aware of the risk of an expert perhaps being tempted to go beyond his expertise and go to an issue that is really a matter for the

jury.

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MR. HADRILL: I do not think he is.

MR. TATFORD: No, I just mention it out of caution

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MR. HADRILL: You have been involved in your years of business in computers with training. A. Yes.

Q And analysing. A. Yes.

Q Supervising. A. Yes.

C

Q Examining detailed information for banks in regard to transaction details. A. Yes.

Q And so you are in a position to pass comment or opinion from your experience of what you observe in the transaction records as to the trading and activity of Mrs. Misra.

D

A. I am able to draw some conclusions from the analysis I have done of the records.

Q So you have looked at that year December 2006 to December 2007 and what is the variance checks in regard to reconciliations and let me just perhaps ask you to look at a document. It is in this bundle at page 130 and if we can look at the 6th of January entry. A. Yes.

E

Q 8.41 and 8.48 there is a variance check being carried out and can I say this what happens is that if you take a month then the event log will spill out I think 2800 or 3000 pages with regard to events. Yes? A. That is about the right number for the transactions. The number for events is a little bit smaller. It is probably about a tenth of that.

F

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Q So about 300 pages for events. A. Correct.

H

Q And you can use technology as it were to filter it for the information you wish to receive from it. A. Yes, so you can look at particular kinds of events based upon the label that you see in the event book.

A

Q So you provided here a variance check here with regard to discrepancies. Mr. Jenkins says that it could be done and provided to the post office but the post office do not ask, but you have done it, have you not? A. I have.

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Q And you provided this variance check for the data that you had for this year to Mr. Jenkins. A. I have.

C

Q Now if we look at page 130, 6th of January 2007 the two entries at 8.41 of 18 seconds at 8.48 we can see that for the first entry and against till or stock unit DD which is a till it is £2,856.73 and within six minutes and 42 seconds it is now £151.63. A. Correct.

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Q And if we were to go through it which I am not suggesting that we do for different stock units and different tills you can see that in a matter of seconds or minutes, the figures are altered significantly. A. Correct.

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Q When you say a variance check what does this reveal to you from your experience?

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A. So the variance check is a facility provided to a sub-postmaster or to a member of the counter staff to see if there is any discrepancy between the amount that a computer system believes you have at a counter versus the amount that really is there when you count it, and so what we are seeing here on 6th January is that at 8.41 the difference between what the operator recorded as being held at the counter, and the user was MEU000 (I do not know which individual that was), and the amount recorded by the computer system was about £2,900 and then a little bit later when they ran the check again and they put some more information into the computer, it went down to around £150.

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Q Now to you from your experience and if it is repeated day after day after day for different tills what does that tell you or give to you the impression? A. I would be

A very concerned if I was the post office or if I was the sub-postmaster that these tills were being well managed.

Q Were or were not? A. I would be concerned that they are not being well managed and I would be concerned that the ability of my staff and myself to balance those tills at the end of each day, or for me to be confident that things were being entered properly, or for me to be confident that the system was behaving properly, all of those things would be giving me concern and I would want to understand how I could change that.

Q Does that come back to training or a review of training or a review of the competence of the person operating the till? A. You would certainly want to exclude that as a reason for the problem so you would want to make sure that the operators of the till were competent and they were following procedures and they were not making a lot of errors.

Q So there is significant variance. A. Yes.

Q And that can lead and I will be quite blunt about it, it is in your report because you have to give an independent report. Do you not? A. Yes.

Q Because your duty is to the court and not to anybody else to give an independent report. A. Yes.

Q And so that could be consistent and it is a pervasive failure with regard to ensuring the till is balanced on a daily basis and that could either be theft or fraud. A. Correct.

Q And we know that Mrs. Misra has pleaded guilty to false accounting. A. That is my understanding.

H JUDGE STEWART: Are you still on that page, 130? A. I have moved to page 123.

Q Could you go back to page 130 just because that is the page we are on? The time

- A should we read that as being the time that the check was performed? A. That is my understanding.
- Q A lot of these are 1.00 in the morning, 3.00, 5.00, 7.00. Do you have any observation about that? A. No, I mean I am unable to make any comment about that.
- B Q Right, oh, they are PM and AM. There is the explanation.
- MR. HADRILL: So 1.24 is not actually in the morning. It is not a 24-hour clock.
- JUDGE STEWART: It is a 12-hour clock and not a 24-hour clock.
- C MR. HADRILL: It is the afternoon. And in fact you create a chart at page 123 and 124, just to explain as it is in the bundle and Mr. Jenkins has seen the discrepancy variance checks and if you just got the data you would expect to see a nice straight line, would you not? A. These are individual spots so it is not sensible to draw a line but I would expect to see perhaps a small number of dots that were clustered around the zero line because it would not be unusual to have a small number of small discrepancies.
- D What we have here are discrepancies both positive and negative which are as high as I think it is about 11,000 towards the top right-hand corner of the chart and as low as minus 7,000, sorry, 11,000, almost 12,000 at the top right-hand corner and as low as minus 7,000 at the bottom right-hand corner.
- E Q And I think if you go and so just having printed off a simple sheet with all of these dots visually it will disclose what to you, if you wanted to investigate either as a post office or Fujitsu? A. From my point of view, all this does is indicate that there is something going on which I would not expect to see [Short break in recording due to tap changeover...]
- F G
- H Q So all of those discrepancies lead you to think it is either theft or fraud which should be investigated-- A. Or mismanagement, yes, and it should be investigated.

- A Q Or mismanagement which needs to be investigated. A. Yes.
- Q And that investigation would either lead to that there is theft or fraud or mismanagement. A. Correct.
- B Q And that would carry out an analysis, would it not, of the understanding and competence of the postmistress? A. Postmistress and her staff.
- Q So you would as good practice want to see her staff at the time of this happening on that particular January of 2007 to decide whether the faults lie with training, incompetence or more serious dishonesty. A. I would imagine that would be part of my investigation.
- C Q Or alternatively or perhaps included persistent system failure; that is the Horizon system failing in an aspect of its duties to account properly. A My hypothesis extends beyond the Horizon system to the whole set of systems that the Post Office used to support their post office counters business. I would not limit my concerns to just Horizon.
- D Q So we have looked at training and the jury have heard the witnesses and you cannot pass a comment upon that other than what you would like to have carried out, seen and done, in regard to reviewing training processes. A. The only comment I can pass is on the fact that, in my experience, good practice in running a training programme is to make a formal assessment of what has been learnt by trainees at the end of the program, and to give the trainees an opportunity to provide formal feedback on the effectiveness of the training.
- E Q Now we have heard that Mrs. Misra for the first week when she was installed in her post office from 30th June 2005 had a trainer with her called Junad(?). That is good precise, is it? A. I think it is good practice to have someone alongside you, yes.
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- A Q And in regard to the person sitting with Mrs. Misra, would you expect there to be a written report or not? A. I would expect there to be a formal assessment.
- B Q Have you seen anything? A. It has not been provided to me and my understanding from the other witnesses is that there was not such a formal assessment.
- C Q Anyway that then brings us on to system failure. A. Yes.
- Q And we know that in the e-mails because it has been read and I put to Mr. Jenkins yesterday about Callendar Square: 8th of March this year, it is an e-mail and he says that he gave you assurances that it is not a problem with West Byfleet. A. That is correct.
- D Q And you accepted what he said at the time. A. I did.
- Q How much work did you have to do at the time, having first been introduced to him in February and you receiving the architecture information on the internet of the e-mail to you on 8th March and how much work did you have to do? A. At the same time I had been given for the first time a CD with 13 months of transactions records, showing the accounting transactions at West Byfleet amounting to about 430,000 records and I had also been given the event logs for West Byfleet, *i.e.*, the Horizon events which was about 10 per cent of that so about 45,000 records and I was focussed on making sure that I understood how to read those records and had an opportunity and wanted an opportunity to speak to Mr. Jenkins so that I could properly understand how to interpret those records.
- G Q So that is how we get the variance checks which we have seen. A. Correct.
- H Q Some of the printouts in regard to the stock units DD which we have seen. I am not going to go through them all and there is a second folder if we had wanted to go through with all further information which is there if the jury want to look at it, but it is

- A [inaudible] information which is just an extract from thousands and thousands and thousands of pages of information. A. Correct.
- Q And so in regard to pursuing problems with the Horizon system, you had discussions with Mr. Jenkins about Callendar Square that he has provided you with what is the peak incident management record which the jury have. Now first of all there is a problem or was a problem which was canvassed in the e-mail of Mr. Jenkins on 8th March. A. That is correct.
- Q And was it then pursued by you? A. It was not pursued at that point, no.
- Q And how much work did you then have to do in any event come 8th March in regard to pursuing either parts of your hypotheses? A. Well, I have explained what was involved in reviewing the data that I had been given; but I was also involved in trying to obtain information about the other post office systems that were identified in the Horizon system architecture diagrams that you have been shown; because in my opinion it was important to understand whether they were operating effectively and whether they were providing good information to the Horizon system.
- Q So there was concern clearly demonstrated in the e-mail of Mr. Jenkins that Callendar Square operated a similar stock unit system to that at West Byfleet. A. Correct.
- Q And telling you that it was cured in March 2006. A. That is correct.
- Q And so your duties as an independent expert are to just to give up or to do what? A. Well, I continued to write interim reports making requests of the post office for additional information.
- Q Now we get the peak incident management system and what has happened is in actual fact that you have sat down, having been given this document and discussed it with Mr. Jenkins to see whether it assists you in settling any concerns or drawing any

A conclusion for the hypothesis. A. That is correct.

Q This document settles your concerns in regard to the performance or problems with the Horizon system? A. What this document, in my opinion, shows is there was a problem at Callendar Square. There is a report about the nature of the problem in the body of the peak incident report. The peak incident process suggests that that problem was corrected. There are two things that I am unable to comment on:

C One is whether the actual symptoms at Callendar Square were the symptoms that were reported in the peak incident report, so there are a number of logs that were originally attached to the peak incident report that neither myself nor Mr. Jenkins have examined so we are relying on the summary information in the peak incident report, rather than the underlying information and it is on the basis of that summary information that Mr. Jenkins and I have then looked at the logs of West Byfleet and said if we assume that the problem at Callendar Square is of the nature that the peak incident report suggests then there is no evidence of it at West Byfleet during the tenure of Miss Misra so we have to make that assumption.

F The second place of concern that I have is that this is one peak incident report. It is clear from the numbering system on the peak incident report and I believe that Jenkins confirmed it that there were a large number of peak incidents that are managed by Fujitsu at any one time. They do not all relate to live systems, but neither Mr. Jenkins nor myself has had an opportunity to look at all of the peak incident reports relating to live systems that were either active or unresolved during the tenure of Misra so I don't know whether there were other problems or not. The Post Office have not instructed Fujitsu to provide me with the information about what problems may or may not have been recorded and, given the number of peak incident reports on

A the system, it would be surprising, in my experience, if that were the only fault in Horizon that was relevant to the term of Misra, but I am unable to make a determination.

B Q And as to Mr. Jenkins, you discussed these matters as experts because you have to tell the lawyers' solicitors who instruct you what the results are of the speedy conversations or lengthy conversations, whatever they happen to be, between you and C Mr. Jenkins, and Mr. Jenkins complains to me because he can see some of the questions being put by me to him of things he has told you but that is the purpose of you sitting down with him to save time and to try and agree the information.

D A. Mr. Jenkins has been very helpful and has given me all of the information he has been able to give me.

E Q So in your position as an independent expert and with the wealth of experience that you have whichever side you happen to be on, whether prosecution or defence, what material would you expect to be able to review to be able to give a confident answer as to whether this Callendar Square incident occurred or did not occur at West Byfleet?

F A. Well, this is the first time I have been instructed in a criminal trial so normally I would be working in civil cases where there is no prosecution and defence; but I would expect to be able to go back and look at the actual symptoms recorded at the time so I could independently take a view as to whether those were similar or different G to the actual symptoms recorded at the time at West Byfleet. What I have got is I have the assurances of Mr. Jenkins about the symptoms and I have the evidence in the peak incident report in summary form about the nature of the symptoms but not being able H to go back and independently verify what the case is.

Q And Mr. Jenkins tells us that in fact he has not seen the attachments or the reports and,

- A in effect, he is just relying upon what he has been told by others. A. That is what I heard him say.
- Q Does that raise concerns with your or not? A. I understand that Mr. Jenkins is working under constraints and so I believe that Mr. Jenkins has done everything possible within the constraints he has been working under.
- Q You have no complaint or criticism against Mr. Jenkins. He is here and you are not levelling that; but if you were in the position of Mr. Jenkins, as an expert in order to stand here and give your evidence what would you want to have seen? A. I would want to make sure that I have seen all of the symptoms as they were recorded at the time, and then I would be confident that I was not just relying upon the reporting of a help desk, and I would be confident that as an architect of the system those symptoms were consistent with the system as I understood it had been built.
- Q We know that as an example and I put this to Mr. Jenkins (page 3 of 6) and it is 22nd September 2005 [inaudible] message store evidence added. I put it to him the fact that that as it were he was dragging out the information from Callendar Square so that it could be examined. A. That is my understanding of what that means.
- Q He has not seen that. Would you think that to be able to pass an expert opinion that should have been reviewed by whoever was going to stand in a position to make a conclusion of whether this summary is right or wrong? A. If I had been asked to make a conclusion or offer an opinion, I would have wanted to see that information.
- Q And the underlying reports and attachments to this. A. I would have wanted to have seen them.
- Q They are not available. A. My understanding is that they have been archived so they are not immediately available.

- A Q Well, what it does demonstrate to you is that there have been problems which are created by the system itself? A. That is my understanding.
- B Q And this is a proven failure at the relevant time of 2005 and 2006 of reconciliation problems being created by the computer and by the computer itself and not by human error. A. That is correct.
- C Q And the problem seems to have persisted from the summary that we have from certainly September 21st, if not a week or so before that, to what we are told is March when it is corrected, and we know now from Mr. Jenkins that it takes time because it is expensive to put the patch or the correction information into a computer so it could have taken until the end of April or early May. A. I think there is a little bit more to it than that.
- D Q Well, perhaps you can assist. A. Indeed the problem was identified in September as you report from the peak incident system, but my understanding from Mr. Jenkins is that the piece of software that is the root cause of this (the [inaudible] piece of software) had been in place since the inception of the system, the first installation of the system in 1998 and that this problem had not been detected by Fujitsu until that
- E September, and therefore there is no evidence that there were not other sub-postmasters, other post offices suffering from this problem prior to 1998. Certainly the software had not been modified (as I understand it) in such a way that this problem
- F arose only in September. My understanding from Mr. Jenkins is that the software contained that potential problem from the point that it was first implemented.
- G Q And that is what makes you think that there could be other peak incidents that may be of assistance because this had been live or there for a number of years before
- H September 2005 and other problems may have existed. A. The peak incident

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system or the pinnacle system would be the place to look to see if there were other problems that could impact the accounting of Horizon.

Q And we know that Mr. Jenkins has not looked and is unable to assist. A. That is correct.

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Q And so you cannot comment any further than your hypothesis and your submissions that this is a hard piece of evidence which you can turn to. Yes? A. That is correct.

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Q And so does that give you any confidence in regard to any hypothesis you now make in regard to the earlier hypothesis in regard to system failure? A. The place that I have got to is that I am unable to exclude system failure of a type that could impact the accounting records at West Byfleet. I cannot make anything stronger than that. I cannot say that I found something that caused that but I am unable to exclude it.

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Q We know that Mr. Jenkins has provided you copies of the NT log. A. Correct.

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Q And he says that he has explained to you what it is. Does that come from his own knowledge or does that rely upon what he has been told by somebody else on the telephone? A. I don't know. I would expect, given his experience and the length of

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his experience that he would understand what an NT log is. There were one or two entries in that log that he was not able to explain to me; but in terms of what an NT log is and how it fits into the architecture, he gave me a very compelling explanation of how it is used which demonstrated to me he understood the function of it and how it supports the Horizon system.

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Q You do not disbelieve what he tells you but you cannot have any confidence in regard to what he has told you, because it is reliant upon information which he has not seen and you have not seen. A. There were one or two elements in that NT log which he

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- A was unable to explain to me. The others he was able to explain to me in a way that made sense to me and gave me confidence that he knew what he was talking about.
- Q But rely upon information which was not available to either to him or you. A. So in relation to some of the lines in that log, he then made a phone call to find out what they meant and came back with a different explanation than he had given me the first time around and so he was relying upon other people's information.
- Q So his initial understanding was flawed. A. In relation to one or two elements.
- Q Traveller's cheque problems do not trouble us any more, do they? That hypothesis, we can reject. A. Mr. Jenkins and I have come to a shared understanding that there is no issue with traveller's cheques in terms of affecting the accounts and a shared understanding of that, there may be some concerns that the reports are as easy to understand as you would hope.
- Q Well, perhaps just to tell the jury quickly because it is a hypothesis which Mr. Tatford dwelt upon briefly but which you had accepted what Mr. Jenkins has said. Have you gone out of your way to reject Mr. Jenkins' interpretation or assurance of any information given to you? A. I had a very specific concern based upon some reports I had been provided by a different post office. I took those to Mr. Jenkins and went through them with him and he was able to explain why I did not need to be concerned about those reports and we were able to come to a shared understanding about the implications of those reports and to agree what it meant so that you, as the jury, would not have to consider that issue any further.
- Q So transaction system problems that may be from beyond Horizon so you have looked at the Horizon system and that has the peak report and now you want to look outside of the Horizon system and transaction corrections. A. My understanding and this is

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also I believe the evidence of Mr. Jenkins is that transactions corrections can be initiated by two parties. Either the sub-postmaster can say I have a concern and I would like a transaction correction to correct my account or somebody within the post office can find that something does not match up and they can then put through a transaction correction to correct it and I believe there was a full explanation of the circumstances in which that could occur which you hear yesterday.

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Q And Mr. Jenkins was telling us yesterday that you can be confident with the transaction corrections because if the sub-postmaster or sub-postmistress at the end of receiving an error transaction accepts it the action of accepting must be that it is correct. Do you accept that?

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A. Mr. Jenkins and I have a different opinion about this. If I look at the system as a whole, *i.e.*, the technology and the processes and the people then there are two things that give me concern about that: One is that we have no way of determining how consistently the transaction correction entered into the system are actually accurate. And secondly, it is not clear to me and in fact I have a number of concerns as to the ability of a sub-postmistress or a supervisor in a sub-post office, their ability to actually find evidence that would enable them to raise a transaction correction so if the post office do not raise a transaction correction and there is something in the favour of the sub-postmistress that should have been raised then the sub-postmistress is going to find it quite difficult to identify where that might occur. So those are the two concerns that I have but I was not able really to pursue an investigation to understand how valid those concerns were.

Q That couples up with your lack of paper of hard copies. A. So the lack of paper is the issue for the sub-postmistress, lack of access to the processes and the systems at the post office is where I cannot really comment on the effectiveness of the transaction

- A correction process as implemented by the post office.
- Q Well, we have been through the debit card/credit card transactions and do you accept it comes up with a figure and you come up with a figure. Are you willing to accept that? It is just 1,800 or something, is it not? A. That is in relation to the transaction corrections so what that reflects is the known transaction corrections that have been implemented by the post office and accepted by the sub-postmistress. What we cannot know is what other transaction corrections should have been submitted by the post office but were not and we cannot take a view about whether there would have been any or not; but the difference in the number that myself and Mr. Jenkins have in relation to that, I do not believe is material.
- Q But clearly that is for December 2006 to December 2007 and you cannot give any assistance for 2005/06, can you? A. I cannot.
- Q And Mr. Jenkins agrees with you that he can say nothing about the integrity of the processes used by the Post Office Ltd outside the Horizon system. A. That is what he has said.
- Q So have you seen anything which could cause you to be satisfied that your hypothesis in regard to there being transaction errors which are wrongly inputted into the computer is a false hypothesis by you. A. In relation to that hypothesis, I am unable to exclude it as an explanation because I have been unable to review the way the systems have operated.
- Q Remittances, that is the cash in stock and the pouches. Yes? A. So remittances is the movement of cash and stock between the post office centrally and the sub-post office.
- Q But there is no suggestion I understand that there are any problems with the remittance

- A system: the system being this, (I say problems) the idea being that if you have a pouch and you have £20,000 in it and you are the postmistress and you tell the post office on the Horizon system, 'I have a pouch to be collected of £20,000.' And so it is collected in the van, delivered to the sorting office and, if it is not delivered, the post office can ask where it has gone of the person who is meant to be couriering the money from A to B.
- B A. It is not something that I have specific knowledge of.
- C Q Right, and also in regard to how the money is, we are being told that certainly when the pouches are opened at the collection centre that it is all videoed to see the notes being counted. You have not seen that operation, have you? A. I had no opportunity to visit that. I visited that kind of operation in other cash collection points not associated with the post office so I cannot comment on the post office compared to those other places that I have visited.
- D Q But if you had, you would have been able to compare from your experience other cash collection points and also an operation with the post office. A. I would, yes.
- E Q You and both Mr. Jenkins have identified in the data that you have been provided for 2006 and 2007 that there are numerous remittance problems, discrepancies or not?
- F A. I have not done an analysis of remittance discrepancies, no.
- G Q I am sorry, perhaps that was him that he was talking about yesterday, sorry. In regard to reproducing the problems, would you have liked to have had the opportunity to try to reproduce the problems to see whether your hypothesis could be rejected or not?
- H A. I would like to have been able to identify what the problems were. I think the difficulty I faced was because I did not have an opportunity to examine the system in operation. It is quite difficult to identify what the real problems might have been that could apply to West Byfleet and then I was unable to investigate in the data that I had

A been provided from West Byfleet whether those problems actually had occurred at
West Byfleet. And so in relation to Callendar Square there was a very specific
B problem and I was given a very specific explanation of what symptoms I should look
for earlier this week and I looked for them and I could not find them; but it would
have been very helpful if I had understood what other kinds of problems could have
arisen by observing a live post office in action for perhaps a week or perhaps ten days.

C Q That has not been permitted. A. I have not had an opportunity to do that.

Q I am looking for the variance chart. Your honour, might I have just five minutes to put
my papers together so that rather than standing here shuffling bits of paper and looking
for various documents--

D JUDGE STEWART: Yes, I know. We are getting near the end of the morning but we will
take a ten-minute break, in any event. Ten minutes, all right.

Adjourned for a short time.

E MR. HADRILL: Your honour, I think I will be about ten minutes at the most. Just a couple
of matters, professor: We have this NT log or event log. When was the first you knew
of the NT event log? A. In Mr. Jenkins' e-mail which I got in March he mentions a
F system log. My assumption was that that was the Horizon event log and I did not
interpret that as being the NT system log. I was not aware that the Horizon system
used the NT system log and therefore this came to my attention just at the beginning of
G this week.

Q In fact, you discussed matters with Mr. Jenkins on Monday and he provided you on
Monday night with a document which you had not seen before (the NT log) and does it
H give you any assistance in having now seen this and to tell the jury and his honour,
does it give you any assistance in regard or what is the purpose of an NT log and

A perhaps you can tell us? A. So as you have heard, NT is the operating system that
was used to provide an environment for the Horizon system to work in and that
operating system has within it something called an NT event log, which is for
B recording all sort of things that happen when programmes are run on that system, and
in particular there are various parts of the Horizon architecture where, when they have
a problem, they write a message to the NT event log so that there is a consistent place
C where you can look for problems. So what Mr. Jenkins went through with me was the
piece of paper that you have in front of you now and what I also asked him to do was
to send me all of the events that were associated with programmes running parts of
D Horizon at the West Byfleet branch so that I could be confident that there were no
other events there that could be of interest in relation to the Callendar Square problem.
So what I did was to rely upon the information in the peak incident log, which said you
E should be looking for locks and I looked for locks within all of the events that had been
recorded in the NT event logs for West Byfleet during the tenure of Misra, and I was
unable to find any of these locks except for the ones that you see in the sheets that you
F have had printed out, and so I became confident that Mr. Jenkins had done an
appropriate selection, and then I relied upon the explanation that Mr. Jenkins gave to
me of why the locks that were here in this particular event log, because there are some
G that actually do not reflect a problem similar to the one at Callendar Square and his
explanation was convincing.

Q But he is informing you from what he has been told by others, who, to give an answer
H which is reflective of the document we have seen, because you would have liked to see
the base documentation to confirm what is being said by others. A. I rely upon

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what I have been told by people who have been told rather than looking at the actual evidence so that I could take an independent view.

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Q And it is rather than you just accepting what somebody tells you at face value, you just want to investigate whether you can accept what they tell you rather than just face value. A. For me, as an independent expert, the proper way of proceeding is to look at the evidence so that I can test what people are telling me.

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Q And I should have said this, but having seen this does this alter your conclusions that your hypothesis in regard to peak event failures with the Horizon system is still a live issue with you? A. I cannot exclude the possibility of system failure as an explanation for what goes on at West Byfleet. The evidence from the particular incident at Callendar Square is insufficient for me to be definitive to say that it excludes West Byfleet because I have not been able to test that against the original data.

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Q And then we move on to the tail-end of Mr. Jenkins' evidence. Were these cash movements? A. I am afraid I do not have one of those in front of me.

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Q I will hand you one now.

JUDGE STEWART: On this NT event log the text on the right-hand side, how is that generated? A. Could I possibly have a copy so that I am sure what you are referring to?

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Q Yes. A. So are you talking about the text which says "message body and error occurred"?

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Q Yes. A. Okay, so what happens is when an application is running, when a programme is running in the NT operating system environment, whenever it feels like it, it can write a message to the event log so that piece of text is a piece of text which

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has been generated by an application running on the NT environment so that anybody in the future can look at some kind of warning or error condition for diagnostic purposes.

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Q So somebody must have written some software at some point in the past so that the computer can produce this message. A. That is correct.

Q Yes, but when it comes to the actual individual message coming up, it is a computer-generated thing. A. Correct.

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MR. HADRILL: Do you know who would have written the NT event programme, just out of interest?

JUDGE STEWART: Does not matter.

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MR. HADRILL: All right, so can we then move on to the cash movements and the supporting documents? This has been created by Mr. Jenkins and I have asked him about various questions. It is a graph which runs from trading period 9 which for the data is 1st December 2006. A. Correct.

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Q So it may or may not be the start of that particular trading period. We do not know. It is just a calendar start of 1st December with a conclusion on 31st December 2007.

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A. Page 2 (the summary page) indicates the date on which the period closed.

Q Yes, right, thank you. So this is a bar chart. It is not cash movements and Mr. Jenkins accepts that. How would you define this particular chart? A. I would suggest that this is a snapshot of the cash positions under various categories and I believe Mr. Jenkins has already explained to you that the blue area is not just cash but it is also methods of payments, like cheques, travellers cheques, vouchers and stamps.

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Q It is just a limited snapshot in regard to part of a period of the operation of Horizon and Mrs. Misra in the West Byfleet post office. A. It is a snapshot at the opening of a

- A new trading period and so it is associated with a particular accounting period.
- Q Does any statistical analysis appear to have been carried out upon it for its relevance?
- A. No.
- Q So it is just a pictorial snapshot and nothing more than that. A. Correct.
- Q It just gives a crude breakdown or rough breakdown and put into two blocks.
- A. That is what the picture shows.
- Q And in regard to the attachment, we have had Mr. Jenkins explain what he says is the summary in regard to your experience, bearing in mind you did mathematics as well. Did you not? A. I have done some mathematics.
- Q Does this really assist in any shape or form? A. It provides you with raw data. It is difficult to see whether you could draw definitive conclusions from it because there is a limited sample.
- Q That is right. It is a limited sample and it is difficult to draw conclusions from it in the overall picture, if you understand what I mean. A. When I look at the figures, just to give you an example, in the summary cash analysis the opening cash value so you can see period nine 2006-07 it starts out at 49,500 roughly. At the end it is about 56,000. In between it goes as low as 47,500 and it goes as high as almost 71,000 so if this had just carried on indefinitely it is not clear to me that the fact that at the end of this list the figure is 56,000 is particularly significant, because in between it has yo-yoed up and down.
- Q And to say the increase in the opening cash is perhaps meaningless, because it is the figure for this particular period but if you started say in September 2006, the opening cash figure would be entirely different and if you had started in September 2006 and finished in August 2007 you come up with a different figure so all it is is just adding

A up figures for a particular selected period which you had data for. A. That is correct.

B JUDGE STEWART: The cash does not vary a huge amount but the pouch part of it, would you agree, seems to be between 10,000 and 20,000 broadly for the first few months and then it is larger for the remaining months? A. That is correct.

C MR. HADRILL: And you do not know whether the cash in pouches had been significant during the course of 2006 and then reduced to these figures in 2007 or early 2006 if these figures in the pouches had been significant cash held and then reduced and then reverted to these figures or what. You just do not have any information on it. A. I have no information prior to December 2006.

D Q Now I just want with regard to the conclusion I think I have dealt with all of your hypotheses and your opinions in regard to agreements and disagreements. Have I not? A. I believe so.

E Q Thank you, I think I have; but anyway just in regard to your purpose as an independent expert that is to be found at pages 35, 36 and 37 of our report. When you are instructed as an expert what are your duties? A. My duties are to the court so that is who my duty is to. I am expected to be very clear about where I can draw a conclusion and where I cannot. I am expected to make whatever investigations I am permitted to make and where I am not able to make investigations to make it clear that I have not had access to the evidence that will allow me to draw a proper conclusion, and I am required to make sure that the court is aware of the kind of evidence that I would need to properly draw a conclusion so that the court can take a view about what disclosure should be made by the various parties.

H Q You are under a duty to provide opinions which are both positive and adverse against

- A the party for whom you are instructed. A. My duty is to the court so I should not be offering anything with any kind of bias and, if it is something which does not help the defence's case, it is important that I express that; if it is something that does not help the prosecution's case, it is important that I express that; if it is something that I cannot offer an opinion on, I shall make it clear that I cannot offer a judgment and can't offer an opinion and there is a limit to what I can say.
- B
- C Q And you are not allowed to include anything which is suggested to you by your lawyers. You have to form your own independent opinion. A. That is correct. I need to make sure that any opinion I do form is based upon evidence that I have examined personally.
- D Q And you rely upon the range of experience that you have and it is limited to the range of experience you have in regard to providing a report and, if anything falls outside of your experience, you are under a duty to advise and to have other experts instructed.
- E A. That is correct. So in this particular instance, if I had wanted to report on the user interface I am not an expert in that area I have general experience and I would have wanted to engage an expert on that particular area who could give a definitive opinion, because they are an expert in that area.
- F Q And in regard to independence, you have to ensure that your fees are not dependent upon the outcome or the nature of the clients. Is that correct? A. That is correct.
- G I am paid by the hour.
- H Q In fact, you are instructed on legal aid by the state. Are you not? A. That is correct.
- Q It is not dependant upon either solicitor or client for your funding and so again there can be no suggestion of bias in regard to the conclusion of your report. A. That is

A correct and I have no relationship with Fujitsu or the Post Office.

Q You have never worked for the solicitor or known Mrs. Misra before. A. No.

JUDGE STEWART: 2.00, please.

B Adjourned until 2.00 PM.
Cross-examined by MR. TATFORD.

Q Professor McLachlan, would you agree with this proposition that first of all the prosecution case you understand is that Mrs. Misra was stealing from her post office over a long period of time? You understand. A. Yes.

Q It is not the suggestion that she took £74,000 in one go. It must have been a series of thefts over a long period of time. A. I am not aware of that.

D Q Well, I am just saying that that is your understanding of the prosecution case. A. I have not gone into the prosecution case in any detail.

Q Well, that is what the prosecution case is: that she was stealing the money over a long period of time and cooking the books to hide the hole in the accounts. Now would this be right, you have not found any evidence that goes in any to disprove that suggestion? A. I have not been able to make a definitive judgment about whether that is the case or not.

F Q Well, you have not been able to make a definitive judgment about whether there might be some evidence you have not found. A. I am clear that there is evidence that I would have liked to have seen that I have not been able to see. I am clear that of the evidence that I have seen, I cannot determine whether there was a theft or not.

G Q I accept that. The evidence of course is capable of a variety of interpretations and that is essentially down to the jury in due course when they hear all of the evidence; but what I was asking was this, have you from the material you have seen, have you discovered any evidence that is inconsistent with the Crown's case? A. If the

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A Crown's case is that there was theft then there is an interpretation of the evidence that I have seen which is consistent with theft.

Q Yes, because you have talked about financial mismanagement and this mismanagement of the tills, and that of course could be down to incompetence, it could be down to poor training, it could be down to laziness and all sorts of possibilities but it also could be down to theft. A. It could be down to theft. The thing which undermines that as the strongest possible explanation is that mismanagement is both positive and negative. It is all over the place. There is not a consistent pattern of it always being down or always being up.

Q Yes, but of course if somebody is stealing and then cooks the books at the end of the month to achieve a perfect balance, a person doing that sort of thing could not care less about the proper management of the office. It is an irrelevance for a thief acting in that way. A. I think the evidence I have seen is that there was not a consistent balance at the end of each month.

Q Well, is that right? Do you want to have a look at our jury bundle, please, if you could be passed a copy? Have a look first, please, at page 28 and I appreciate that some of this documentation is not very easy to read and the reason for that is that the printer did not seem to work very well at West Byfleet; but do you see on page 28 there are various boxes and various areas of documentation and then gaps between them? Can you see those? A. I can, yes.

Q And it is hard to see but the fourth row down begins "cash on hand carried forward" and underneath that--

H JUDGE STEWART: Not the fourth row down but the fourth block of lines down.

MR. TATFORD: Yes. A. Yes, yes, "cash on hand brought forward".

- A Q Thank you, your honour.
- JUDGE STEWART: Yes, 27,993.73 it says.
- MR. TATFORD: 27,993.73 and that is an example, just so you understand, if you did not
- B already, that is false figure put into the computer by Mrs. Misra. She has admitted to that by her pleas of guilt. Underneath that is trading position. Can you just make that out? A. Can you count down a number of lines for me, I am struggling.
- C Q So go from: "Cash on hand carried forward all currencies awaiting collection, suspense, other method of payment carried forward, foreign exchange carried forward, other postage carried forward, total carried forward." A. Yes.
- D Q Line underneath that not very clear to read but can you just make it out "trading position (plus or minus)." A. I will take your word for it. I cannot actually read it to be fair.
- E Q All right, well, some of the documents will be a little clearer but trading position means is there a loss or a certain sort of deficiency. Would that be right? A. That is what I would expect, yes.
- F Q That is what plus or minus means, presumably. A. That is what I would expect.
- Q Is there more money actually there than the computer thinks or is there less money than the computer thinks? Yes? A. Yes.
- G Q Because what happens at the end of the month says there is a stock take and the cash is counted against the computer records. Do you understand that? A. Yes, well, there is a stock take every day.
- H Q And it may vary exactly how it is done but the office balance takes place at the end of the trading period and that is when this document is produced. Do you follow? A. Yes.

- A Q Well, the trading period for this document plus or minus 0.00 so Mrs. Misra has been able to balance the account perfectly. Do you follow? A. She has been able to put in a number which means that you end up with 0.00 at the bottom, yes.
- B Q Yes, she has put in fictitious numbers to make the computer think that the balance is perfect. Do you understand? A. Yes.
- Q So that is an example of the balance being fiddled to an exact position? A. Yes.
- C Q And have a look at page 32, please, or in fact that is an even worse copy. I will go to another example. Yes, 36 is much clearer and perhaps I should have started with this. This is the final branch trading statement from 14th November 2007 to 15th December 2007 so it actually comes from the period that you had data to look at. A. Correct.
- D Q And we can go down to see the words 'trading position'. Can you see it now? A. Yes.
- E Q Plus or minus 0.00. A. Yes.
- Q So that is another example, I suggest, of fiddling the accounts to create a perfect balance. Yes? A. Yes, if you are telling me that she has pleaded guilty to putting a false number on the top and this is getting a balance at the bottom.
- F Q Yes, she has admitted the false number but the result of the false number is a perfect balance. Do you understand? A. Yes.
- G Q So whatever the trading position might have been throughout the month, whatever messy state it may have been, Mrs. Misra has fiddled the figures to create perfection. Do you see? A. She has entered one number which credits a zero balance, correct.
- H Q Well, in fact she has admitted to entering two numbers at least false. She admits cash on hand carried forward and 39,000 is a fiction and all currencies awaiting collection carried forward and that is a fiction as well. That was another count on the indictment

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so what you said earlier in fact is not right. I am not seeking to criticise you for it, because it may be that your attention has not been drawn in any detail to these documents, but it is not a case (as you said earlier) of a perfect balance not being achieved; that is precisely what was achieved so—

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A. With respect—

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Q Yes. A. In these cases, you demonstrated a perfect balance. I looked at all of the discrepancies that were reported on the system for the whole period and I produced a chart of all of those discrepancies and there were a very large number of discrepancies which were both positive and negative and there were some where there was no discrepancy and those are shown on the chart as well.

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Q Yes, I accept that there is a messy picture but the reason for the jury to consider is why and it might be incompetence or it might be pure idleness or it might be theft; those are all perfectly valid possibilities. Are they not? A. I accept that.

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Q Because the thief could not care less about making everything neat because they are going to tell a big lie at the end of the month anyway. Do you follow? A. I understand your hypothesis.

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Q So I suppose I am putting a hypothesis. I am taking a leaf out of your book. You have not found any evidence whatsoever to undermine that hypothesis. It is perfectly valid on the evidence. A. It is a valid hypothesis. I would agree.

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Q Thank you, and, in fairness to you, you acknowledged when talking about the discrepancies and the patterns that you developed that that could be down to theft. A. Yes.

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Q Can I just ask you about what you say you have not seen? Do you understand that in a criminal trial the prosecution has a duty to serve on the defence material that may undermine the prosecution case or may support the defence case? Do you understand

- A that principle? A. I understand that principle.
- Q And you understand that the defence may request that material but whether they get it depends on whether the material is relevant and whether it passes the test of undermining the prosecution case or supporting the defence case. Do you understand the decision-making process? A. Yes.
- Q Now you have in a number of answer to Mr. Hadrill's questions you did not have a piece of material and you would have liked it and I accept that vast amounts of material were asked for that you did not get; but do you also understand this that the position does not end there with the prosecution saying no? The defence, if they choose to do so, can make an application to the court and ask a judge whether he is prepared to order more disclosure. Do you understand that? A. I do understand that.
- Q Now that never happened in this case, did it? A. I sat in court and heard an application for further disclosure.
- Q Do you want to think about that because I think we were all there that day, 7th May in front of the resident judge at Guildford, His Honour Judge Critchlow? Do you remember? A. I was there.
- Q And you had provided a new list of disclosure requests about the computer system one step up from West Byfleet about what was going on in Chesterfield. A. It was a disclosure request which had a number of items, some of which had been asked for before.
- Q Yes, but it was a very full and wide-ranging request. Was it not? A. Yes, it was.
- Q And it was mainly focused on what you perceived as a new issue in the computer system higher up from West Byfleet which might lead to transaction corrections for

A instance going to West Byfleet. A. I am not sure that I would characterise it in those terms.

Q But that was something you were interested in getting material about, were you not?

B A. I became aware of that and that other systems existed in March and I had been interested since March in getting information about that.

Q Now it may be difficult to remember, but in fact is it not right that the prosecution showed the disclosure request to the resident judge rather than the defence making an application? Do you remember that? A. I am afraid I am not familiar with what the actual procedure was.

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D Q And do you remember the prosecution, indeed it was me, but do you remember the prosecution asking the judge to look through it and to note that you were saying that you would need to perform approximately 45 hours extra work.

E MR. HADRILL: Can I say I was there as well and there will be a tape of what was actually said and I think my learned friend and I are at loggerheads--

F JUDGE STEWART: Well, I am struggling to understand why it is necessary for the jury to know the details of a hearing five months ago about disclosure. The jury have heard what Professor McLachlan has seen and the extent of the conclusions he feels able to reach on that and they will form a judgment about it.

G MR. TATFORD: Thank you, so be it then. Let me just see if I can approach this issue in a slightly different way if you will just give me one moment. After that hearing, did you ever make a further request for disclosure that you wanted to be put before a judge so you could get the material that you wanted to see? A. My understanding was that that hearing made it very clear that there was no possibility that such a request would be considered.

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- A Q But anybody can make a mistake. You do not need to do hours of research to establish that possibility. A. What is important is the frequency of mistake and the kind of mistake and so if there is feature of the system which means that people consistently make one kind of mistake then that is of real interest. If the mistakes are completely
- B random and very occasional then that is not.
- C Q But do you not understand in relation to West Byfleet or any post office the way mistakes are discovered is when there is a stocktaking exercise performed? You do not need to video somebody doing it: you look at the documentation and look at the
- D Horizon data and compare it with what is actually on hand. A. You can look at the Horizon data and compare it with what is on hand but there are some kinds of mistakes, which would not have been identified in that way.
- E Q Like what? A. So, for example, if you collect the wrong amount of cash over the counter then it is not going to show in the Horizon data and there will be a discrepancy between what you have in the till and what is on the system and you will not be able to identify where that has come from in detail.
- F Q Yes, but you will be able to see whose stock has the loss, will you not? A. But you will not know how you can determine the basis of that loss and whether that is a user error or a system error.
- G Q Well, you can, can you not, determine whether it is a user error, because if there is a mistake, if there is cash missing, say there is too much change handed over unless there is some sign in the data that some computer malfunction has happened, one can assume that that is down to human error, can you not? A. The difficulty is that if
- H you cannot compare those two things at the same time then you are unable to determine what the source is and so if you are always going to assume that the

A computer system is absolutely okay then you will conclude that it is user error or it is some kind of deliberate theft or whatever; but if you are able to observe them side-by-side then you can see whether there is a pattern of incorrect entry or whether there is a pattern of computer error or both.

B Q You can see whether there is a pattern in relation to the people you are filming at a post office not West Byfleet. A. Yes.

C Q Which might be down to them not being very good or them not having much training or it might be down to a system problem but it would be hard to tell which, would it not? A. No, I don't think so because if you can establish the nature of the people who were using the system then you can establish whether they are comparable to somebody with Seema Misra's experience or not.

D Q Ah, yes, that is what I was coming to because who were you going to choose, because you need a clone of Seema Misra, did you not, somebody similar to her to do the test properly? Do you not? A. There are two ways you could look at it. You could say: If we can establish that there is a problem with somebody who is already an experienced bank system operator and they are having problems and we can find the source of the problems that they are having then, even if you have somebody who is less experienced, then we will establish that there are problems coming from somebody who is very experienced.

F Q So what sort of person would you have chosen to represent Seema Misra in this experiment? A. Well, in this particular experiment, I had identified a post office in the West Midlands where there was somebody who was experienced in using bank systems.

G H Q Was it somebody with a computer qualification? A. No, somebody who was

- A experienced in using bank systems.
- Q I see. A. So they had been trained by a bank to use a banking system.
- Q Was it somebody whose first language was English or second language was English?
- A. Second language was English.
- B Q Yes, because that is a point that you make in your report that you need to have somebody whose second language was English, like Mrs. Misra. A. I think I made that point in relation to the training rather than in relation to examining the operator's
- C use.
- Q Because Mrs. Misra can speak very good English. Can she not? A. I have never spoken to Mrs. Misra.
- D Q Not at all. A. No.
- Q Was that not a bit of a missed opportunity? A. I don't think so, because I think it is important for me to examine what is going on in relation to the system and not to take a view about the client.
- E Q I want to ask you about that because Callendar Square was material that was disclosed to you by the prosecution. Is that not right? A. It was first made aware to me by an e-mail from Mr. Jenkins.
- F Q Did you not also see a judgment in a case called *Castleton* where it was referred to as well? Have you seen that at all? A. I have not seen that judgment.
- G Q So you were made aware of it by Mr. Jenkins. It is not something you discovered yourself. Yes? A. That is correct.
- H Q And once you have a problem you can see, 'Ah, I have a problem, now let me see if it works at West Byfleet.' A. That would be the plan.

- A Q You can be very specific and it is a much quicker exercise than seeking to find out everything you possibly can about the Horizon system and then working from that starting point. A. That is absolutely right, which is why I asked for all of the other problems that had been recorded for Horizon so I investigated on the basis of those.
- B Q Yes, well, I am just suggesting that the Callendar Square example might have been a better way of starting off your enquiries than by a general investigation into the Horizon system. Can I just suggest why? The Callendar Square is an acknowledged problem, acknowledged symptoms and you can check the data to see if it applies so that exercise, although it involved, I think, a lot of hard work for you and Mr. Jenkins this week it could be done in a fairly short period of time. Yes? A. I was assured by Mr. Jenkins that it was not an issue that applied in the West Byfleet case.
- C Q No, listen to the question, because you had a problem, an identifiable problem with identifiable symptoms, you could then relatively quickly see whether it applied to West Byfleet. Yes? A. Yes, and Mr. Jenkins had done that.
- D Q So if you then have acknowledged problems then you do not need to go through the whole of the Horizon system up and down the country in every single section, if you are given a list of problems that apparently were happening at West Byfleet, for example, you can then look at the West Byfleet data and see if they apply. A. But I wasn't given a list of those problems.
- E Q Did you not think that you should ask for one? A. I did.
- F Q From Mrs. Misra. A. From Mrs. Misra?
- G Q Well, Mrs. Misra, Professor McLachlan, is the only person in this courtroom who was working at West Byfleet and she was in charge. A. I read the interview that she gave where she described her experience of the problems.
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Q Well, in her interview she did not talk about any computer problems. She talked about employees stealing £89,000. She did not raise computer problems at all.
A. Correct.

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Q So that was not going to be particularly helpful in looking for computer problems, was it? A. Exactly, so I did not choose to pursue that with Mrs. Misra because that was not going to be a source of information.

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Q Well, did you not understand that it was an issue in her case, computer error? A. I was asked to investigate whether it could be an issue in her case. I did not start with the position whether it was or not.

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Q I fully accept that you are given instructions and you follow them; but I am just wondering or asking you to explain why you did not follow what might have been a much easier step and might have made your work much more time-efficient, if you had simply asked whether it was possible to have a list of problems that Mrs. Misra remembers you could then with such a list then look at the West Byfleet data and see if they were real possibilities or not. A. I don't think that would have allowed me to make a proper investigation of the problem.

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Q Well, it would have been a good start, would it not? A. I wanted to rely upon records that were held that I could look at rather than based upon the interview that I had read with Mrs. Misra where she had not identified particular computer problems, go back and see if I could resurrect problems in her mind.

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Q But do you not accept that if somebody is actually operating the equipment, they may not even know the exact technical reason for a problem but they can see that there is a problem, can they not? A. I accept that they can have an experience of the system which they cannot explain and that they think the problem may be with the system.

- A Q Well, let us take it from that. Would it not have been helpful for you in order to save a lot of time to ask if you could have information from Mrs. Misra as to problematic things that she had been experiencing? Did you not think that might be helpful?
- B A. Well, I had access to the information provided by Mr. Dunks in terms of the records of the kinds of problems that she had rung up about.
- C Q Mrs. Misra was the sub-postmistress. She is there and she was there for one imagines for the vast majority of the 440,000 transactions. She was there for most of them. Did you not think that she would be the obvious first port of call to find out whether there were some symptoms at the office? A. I did not, to be honest, because when I
- D looked at her witness statement, it didn't appear to me that she was clear that there were any computer problems.
- E Q Well, did that not strike you as fairly odd? A. No.
- F Q Well, Mr. Vasarmy, you have heard his evidence. A. Yes, well, no I have heard parts of it.
- G Q And in fairness to you, I am sure you would have been in court to hear the first part but you were busy working with Mr. Jenkins outside, I think. A. That is correct.
- H Q But Mr. Vasarmy has explained how he was able to see if there was a loss on his accounts when he checked his stock and you heard the evidence today that he was able to explain that £1,000 error and explain all about it. A. I did hear him.
- Q So that is a sub-postmaster who is able to use the Horizon system to locate the problem. Did you not think that Mrs. Misra might have been able to offer that sort of assistance? A. I didn't, no.
- Q Why not? A. Because when I read her interview it did not appear to me that she was in a position to offer that kind of assistance.

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Q Well, did it not strike you as odd that somebody could run a post office for two years seven months and yet provide you with no assistance as to whether there were any problems at the office or not? A. No, it didn't.

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Q Well, how did you think Mrs. Misra managed to run the office? A. I am not quite sure what you mean by that.

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Q Well, for instance, we have looked at the documentation and Mrs. Misra was certainly able to use the Horizon system to fiddle the books and create a perfect balance. You can see the evidence in front of you and she has admitted that. A. Yes, and from

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my understanding of the way the system operates you can make a check to see what the number should be and if there was a discrepancy between what you have got and what the number should be, you can then put in an amount which the system tells you that the number should be which would make the thing balance and that is a very straightforward operation.

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Q Well, it is straightforward but it shows a pretty good knowledge of Horizon, does it not, to be able to balance the books in that dishonest way? A. I think it is much more difficult to balance the books by putting in a false figure than actually finding out what the problem is so that you can put in the right figure.

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Q Oh, I see, well, you know what the problem is when you are stealing, because you know how much you are stealing so you need to know how much you can inflate the accounts. Do you understand? A. I am not in a position to comment on whether she was stealing or not.

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Q No, I am just asking. I am just asking if you understand the proposition. If somebody takes £50 out of the till unless they inflate the figures the till, when the balance is done, will show a loss and the theft will be immediately apparent. They have to inflate the

- A figures to pretend the money is still there. Do you not understand that? A. I accept that and also, if they are in a position where they have a discrepancy of £50, then they can either spend a lot of time and effort trying to find out the source of that discrepancy or they can falsely account that it is not a problem.
- B Q And you have heard from Mr. Vasarmy that he (as an experienced sub-postmaster) has on occasion been able to find out the problem. A. I am afraid I cannot comment on his experience.
- C Q Well, you have heard him give evidence about how he was able to find this £1,000 transaction and the customer could be contacted. A. Yes, but I have no idea how long he has been a sub-postmaster.
- D Q Well, he gave evidence that he actually is sub-postmaster to five offices and that was the evidence he gave. I appreciate you probably were not here for that part of it so there is an example of somebody running West Byfleet who can find the answer, he says, to any problem just by looking at the Horizon data. Were you not surprised that Mrs. Misra could not do the same from what you read of her statement? A. No.
- E Q But you thought it was not surprising that she was not able to run a post office for two years and seven months or sorry I will rephrase that, did you not assume that it was likely at least that by running a post office for such a long time she was able to use the computer equipment? A. I wanted to find out whether she had been properly trained to use the computer equipment and therefore was using it properly. If she was having problems from day one and if she was having issues with balancing from day one and through her entire tenure then it would have been as difficult at the beginning as it was at the end.
- F Q Fine, well, you do not need to look at other people being trained. Why do you not just
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A ask Mrs. Misra, 'Do you think you have been well trained or not?' Would that not have been the easiest way to get the answer--

B MR. HADRILL: This is professionalism in regard to an expert is meant to be independent and separate, and my learned friend is making criticism that a course has not been taken which if he had taken the course which is being adopted, he would be criticised for taking that course.

C JUDGE STEWART: Well, the witness will give his answer. If it is not a fair observation, I am sure Professor McLachlan is capable of dealing with it

D MR. TATFORD: I am asking you this because you put a lot of reliance on the fact that you have not seen for instance post office staff being trained. A. That is correct.

Q But that would only help you with their training and the particular trainer who is training them. Yes? A. No, it would tell me what the quality of training is that the post office presents.

E Q All right, I accept it would also show the sort of training involved but you are still looking at a different person from Mrs. Misra and probably a different trainer. A. Yes, but we have heard from Mr. Bayfield that he manages the training so it is of a consistent quality.

F Q All right, but was it not just easier to ask Mrs. Misra whether she thought she was well trained or not and then you would get the answer from the horse's mouth? A. I would not want to rely upon what she said about whether she was well trained or not because I would want to rely upon independent evidence.

G H Q Well, would it not be important if she said to you, 'Well, I went to the classroom for a week but I did not understand a word of what was going on'? That would be helpful to decide whether she was well trained or not, would it not? A. In my view that is

A something that the defence solicitor would seek for Misra to provide in her own defence. It is not something that I should be looking at. I should be looking at what independent evidence I can find about the standard of training that she had, not take a view about whether she is telling the truth or not.

B Q Well, it is not asking you to do that in fact. It is just asking you for relevant information from a person likely to be able to provide it. Do you not see? A. I would want to rely upon things that I could independently verify and so an assertion by Seema Misra would not be helpful to me.

C Q Right, well, I suppose in relation to this we will just have to wait and hear what she may say if she wants to give evidence in due course about training. A. That is the position I am left in.

D Q And I suppose the same is true ironically enough about computer error, because whatever you say generally about the Horizon system, if Mrs. Misra is not able to describe problems she encountered that would suggest rather strongly, would it not, that she did not have any systematic problems? A. I think to be able to describe problems that you had as computer problems, you need to understand well enough the system to be able to distinguish between computer problems and user errors.

E Q No, forgive me, Callendar Square, let us use that because it is often a useful way of looking at other parts of the case because at Callendar Square the sub-postmaster saw a problem and so he called the helpline. A. Correct.

F Q He did not know what the reason for the problem is but he saw the problem. A. Correct.

H Q And would you not expect that if there were any computer problems at West Byfleet, would you not expect that at least a competent sub-postmaster would at least recognise

A that something was wrong? A. I think that an experienced sub-postmaster could be expected to recognise that something was wrong.

B Q Yes, so really it depends on the job [inaudible]. A. [Inaudible] manifest themselves directly in the Horizon system that may have impacted the system that Misra was using so she can take a view about what is happening on the counter and her experience on the counter. She cannot necessarily take a view about what is happening in systems that feed into that externally.

C Q But if Mrs. Misra is unable to give a description of any problem she encountered, would that not make your evidence as to the Horizon system as a whole rather irrelevant? A. I don't think so and I think if the assumption behind your question is D that Mrs. Misra has enough sophistication and understanding how computer systems work to identify a problem that she is having in managing her post office, her sub-post office as being a computer system problem not a staff problem, not a staff theft E problem, not because she does not understand how to use it. So there is a whole set of reasons that she might have for thinking there was a problem and she may not have the experience or understanding to identify it as a computer problem.

F Q So does it depend on her computer experience? A. As a computer user or as someone who understands how a computer systems are put together I would suggest G that just because you have used a computer system, it does not necessarily qualify you to identify problems with it.

H Q All right, well, I wonder if I could ask you to look at a document, please, and if I could pass out copies to your honour and to the jury and this will be exhibited by the next witness for the Crown and so could it be exhibit 13, please?

JUDGE STEWART: Yes. [Pause].

- A MR. TATFORD: Shall I explain what that is first of all? It may be rather obvious but this so
you understand is the CV of Seema Misra which was presented on her application to
become sub-postmistress. A. Yes.
- B Q Have you ever seen this before? A. No.
- C Q We can look at her personal profile and this is how she describes herself: "Has
considerable business experience with strong administrative, management, retailing
and accounting skills. Good communication, team leadership and staff training
abilities." The fourth bullet: "Works well on her own initiative and is a team player,
used to working under pressure to meet tight deadlines. Computer literate, experienced
in programming, word processing, creating spreadsheets and database management."
- D Do you see? A. I do.
- E Q And she has worked as a store manager; she has worked as the director of a company
handling all aspects of business management, VAT returns and accounting. She has
worked as junior computer programmer involved in designing and implementing IT
software solutions. She has worked for Bedfordshire police including at the end of that
second bullet updating the police computer database and it is quite important for
F somebody using the police national computer to put the right details in, is it not? Do
you have experience of that computer system? A. I have no experience of that
system.
- G Q All right, she has been an assistant finance manager and, well, she has also been a
dental receptionist and there is her education and training set out. She has a Bachelor
of Arts degree in English from New Delhi University so English is not going to be a
H problem for her, presumably. Do you see? And, well, she has done a computer-
programming course in 2001/02. Does that give you a fuller picture of Mrs. Misra?

- A. It is very helpful.
- A
Q So that sort of person would you not expect them to be able to describe some problems they were having with their computer at the post office. A. I don't think I can take a view about that to be honest.
- B
Q Well, she is not a computer illiterate, is she, assuming that that document is true?
A. It would not appear so, no.
- C
Q And you have heard the evidence that the Horizon system was designed so that people with no IT experience could use it. A. That is what Mr. Jenkins told us.
- D
Q So do you still say is it not at least a real possibility that someone with that sort of CV would be alert to problems on the system? A. I accept your term that it is a real possibility. I wouldn't go further than that.
- E
Q And fair enough, quite frankly. It is for the jury to decide in due course, but for that sort of person in fact for your experiments, you would have to have chosen somebody with quite a lot of business and computer background, would you not, to make a fair test? A. I don't think the experiment relied upon people being able to detect the problems. I think that the experiment relied upon where those problems were introduced and I think that, in the case of West Byfleet, Mrs. Misra was not the only operator of the computer systems.
- F
Q Yes, but she is in overall control. Is she not? A. As I understand it.
- G
Q And if something goes wrong she has to pay the bill. That is your understanding as well, is it not? A. That is correct.
- H
Q What do you make of the evidence of Mr. Vasarmy when he says that he has not suffered a computer problem? Does that not affect whether there really was a computer problem or not when Mrs. Misra was there? A. I am a little bit confused

A by your question, because I believe that we went through some logs which demonstrated that there were some computer failures.

Q Yes, and that is why he came back and is why he was asked questions about and it and he gave his explanation. He was asked about that voicemail message and he said, yes, I remember that and was able to explain it all and when shown that and cross-examined on various other matters, he said, as far as he was concerned, he did not suffer a computer problem. A. My understanding and from what I heard was that he said that he did not have a problem with the computer which prevented him managing the accounts and so he was able to identify the problem with his £1,000 missing and to sort it out.

Q But it was not a computer problem; that is the point. It was human error. A. Well, I think it is difficult to distinguish between human error and a computer problem

Q Well, that is what he said, professor. It happened to him. A. The source of human error could be the way that the system is designed so to have this absolute hard and fast separation between a user error and a computer problem, in my view, is not reasonable. You can say that the operator makes a mistake and you can say that the computer was designed in such a way that it was very easy for the operator to make a mistake.

Q He said that the staff member took the wrong money and was 1,000 light that is what went wrong. It was not a computer error. A. They took the wrong money so the amount that they entered onto the computer system compared to what they collected was different.

H Q All right, well, would it be odd for a computer problem to exist at West Byfleet when Mrs. Misra was there but not immediately before she was there and not immediately

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after? Would it be odd for the problem to be just when she was there from your knowledge of computers? A. My understanding is that the Horizon system is

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regularly updated with new releases of software and that when the hardware fails it is replaced and therefore the state of the computer system when Mrs. Misra first took on the post office and the state of the computer system when Mr. Vasarmy first took over the post office are likely to have been different.

C

Q Well, all right, let us put the full picture. The evidence that the jury will hear in due course, they have heard Mr. Vasarmy's evidence so it is all right for him and when Mrs. Misra took over the shop which is a bank (I am not going to quibble it is a mixture, is it not?) but when she took over a stock take is done so she does not take on a branch with a massive loss and there was a deficiency of £1.88. So the position appears to be that there is no problem before she is there and no problem afterwards. It is just when she is there. Does that not help rule out system failure? A. I don't think it forms a view one way or the other.

E

Q Well, is it not relevant? A. Is it relevant?

F

Q Yes, the fact that it worked perfectly well for the other people? A. Well, the way that I would state what you have offered is that other people were able to use it effectively which is slightly different from saying that it worked perfectly well for other people. With the example of Callendar Square, I believe the evidence is that the problem with the Horizon system and the Riposte(?) component had been present since 1998 so between 1998 and when Callendar Square identified the problem nobody else had been able to find that problem.

H

Q Yes, but less us look at Callendar Square. There is no evidence that Callendar Square affected Mrs. Misra at all, is there? A. I have not been able to find any evidence

- A which gives a definitive position, no.
- Q All right, well, you have relied on much for Mr. Jenkins. A. I have.
- Q And you think the explanation he gives is a convincing one. A. I do.
- B Q The problem, as I understand it, is you are not absolutely sure that the summaries in the peak incident reports are right because you have not gone back to the raw data. A. I have not been able to take the level of care that I would like to take to be definitive about it.
- C Q But that is the point, the summaries suggest quite clearly that it was not a problem at West Byfleet. The question is, are they right? A. The question is--
- D Q Is that your problem with the evidence? A. The problem is, as an independent expert, I would like to assure myself that I can offer an opinion based upon the data present at the time and I have not in this particular case been able to.
- E Q Well, there are no helpline calls in relation to a Callendar Square type problem, are there? A. What at West Byfleet?
- F Q Yes. Did Mrs. Misra ever phone up and say, 'Oh, I have a problem with one of my stocks. It is not receiving money from another of my stocks.' Was anyone ever saying that? A. I don't know because I have not seen the logs.
- G Q You have seen the helpline. If you have a problem with the computer, you phone up Fujitsu. Do you not? A. With respect, if you or she has a problem reconciling two stock units she would ring the national business support centre. She may not have seen it as a problem with the underlying hardware. She may have rung up the national business support centre and I have not had any sight of the business support logs for
- H the national business support centre.

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Q Well, with respect to use your phrase, professor, when Mrs. Misra did phone up the helpline about an accounting problem she phoned up in February. She said she was down on two stocks £6,000. Now she phoned Fujitsu about that, do you remember that evidence? A. I do remember that.

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Q Well, I suppose you can choose which helpline to call, but there is no evidence of any call to Fujitsu helpline about a Callendar Square type problem, is there? A. There is not, no.

C

Q And do you agree that the symptoms of Callendar Square, if not the reason for the symptoms, that the symptoms would be obvious to a competent user of the system?

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A. I don't know because I don't know the competence of the person at Callendar Square. I know the person at Callendar Square identified the problem but it is clear that nobody had identified the problem before and so I do not know whether it is reasonable to expect that Misra would have identified the problem.

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Q Well, why not just ask her? You could find out whether she had experienced the problem or not but you have not done that. A. No, I have not done that.

F

Q And she might have said, 'No, I didn't.' You can forget about Callendar Square. You can put it in the bin. Of all of the people to ask and of all of the documentation to look at she should have been the first port of call, should she not? A. Well, she making complaints about problems with her stock units and so I—

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Q 6,000 short in February on two stock units. No other complaints to the Fujitsu helpline.

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MR. HADRILL: Well, qualify that. There is only one—

MR. TATFORD: Yes, as I said to the Fujitsu help line. Well, I suppose we will just have to wait and see what Mrs. Misra has to say because she will know if she made calls to the

A helpline. A. I would assume so.

Q Yes, and in fact have you not seen or are you not aware that her case is that she was afraid to call up in case she lost the post office?

B JUDGE STEWART: I think that is a jury point.

MR. TATFORD: All right, yes, so be it.

MR. HADRILL: Can I just correct one small point, because my learned friend opened on the

C defence case statement and said it was a detailed defence case statement, setting out the nature of the defence case and I do not think it is fair to pretend my learned friend would say that this witness has been given no instructions. I mean, the defence case statement was available to all.

D MR. TATFORD: Yes, have you see the defence case statement in this case? Do you know what one is? A. I believe I have seen. It is the summary that is presented right at the beginning. Is that right?

E Q No, I am afraid not. Let us leave it.

JUDGE STEWART: How far do you need to go, professor, before you are prepared to

F accept material? We talked about the engineer who went to Callendar Square and to use my word diagnosed the problem and you made the observation, "Well, I don't know how competent that person was?" Well, how far back would you feel it necessary to go to feel able to form an opinion about something like that? A. I

G don't think I had any concerns about the quality of the engineer. My concern was that there is a suggestion that one particular symptom that is reported is the Callendar Square problem and therefore that is the symptom I should look for at West Byfleet.

H Now what I have been unable to do is to assure myself that actually what the person on the help desk recorded as a symptom is properly the symptoms that were found in the

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logs and so that is the place of uncertainty and that means that my opinion is qualified by that uncertainty. The place where I am today is that Mr. Jenkins has given an explanation of Callendar Square. The explanation is consistent with the information that I have been provided with. I need to qualify my opinion with the fact that there is some information that if I had had access to it might have led me to a different opinion so it is just a qualification that I cannot be as sure as I would like to be.

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MR. TATFORD: It is a pretty small qualification, is it not? All of the evidence points to Callendar Square not being a problem at West Byfleet. A. There is one piece of evidence that could have demonstrated that actually the problem at Callendar Square was so different from the understanding that Mr. Jenkins has formed and that he has transmitted to me that actually it was relevant to West Byfleet.

D

Q What piece of evidence is that? A. What is in the logs that have not been made available, the archive logs.

E

Q That would mean that the summaries are wrong. A. It would, yes.

F

Q Well, how likely is that? Do you think it is a realistic possibility that somebody in doing a summary about a computer problem where the details presumably are important will just get it completely wrong? A. I work with a company called Amsphere and they are involved in testing systems and that is their lifeblood and there are all sort of situations in which tests are incorrectly done, in which symptoms are incorrectly diagnosed and in which failures persist in systems for long periods of time and so this is not a possibility that I would want to exclude.

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Q But in that situation do they get the summaries wrong if they are describing a problem? Do they completely misdescribe it in the summary form? A. Yes, they do, yes.

Q Oh, I see, but that is the only way in which Callendar Square remains any sort of

possibility if the summary is wrong. A. That is correct.

A JUDGE STEWART: I was writing down or trying to write down what you said and I wonder if what I have written is what you would wish me to have down, because what I have started writing was that in relation to Callendar Square there was one piece of information that was not supplied to you which would have implied that the problem was so different that it could have applied to West Byfleet; but do I understand you to be saying that you cannot exclude the possibility that there is a piece of evidence which would result in Callendar Square being relevant to West Byfleet? A. To try to be very clear, the peak incident report that we went through identifies two or three attachments that were held in the peak incident system which is data drawn down from Callendar Square, which was used to investigate the problem and a judgment was made from that data, by the people involved at the time, that the symptom to look for was this locking problem, and that is what myself and Jenkins have relied upon in taking a view as to whether that was present at West Byfleet or not. And the only hesitation I have is that that chain of evidence that the log showed the locking problem is not there, because I have not been able to look at the log and neither has Mr. Jenkins and so we are both relying upon what other people have said and what is written in that report. If the log shows something different then we should be looking for something different at West Byfleet which we have not looked for.

G MR. TATFORD: The loss here and what is missing here is over £74,000. Are you able to say to take another example of what you have identified as another potential problem just mistakes. Now it would take an awful lot of mistakes to create a missing £74,000, would it not? H A. If you have turnover of let us say for the sake of argument 24 million and you are operating over I think was it 23 months then you do not have to

- A make many mistakes of much value per month for it to accrue to 75,000.
- Q Can I ask you about your turnover figures because in fact Mr. Vasarmy, when he gave evidence when you were not here, suggested that in his post office, which is in the same place, the turnover monthly was 20,000. A. I cannot comment on that. I have not seen the records.
- Q Well, he said that and he runs the place so presumably he knows – well, one imagines he might have some idea of what the turnover is if he is the boss. A. I think you need to take a view and I cannot take a view about what he means by turnover. So if he means by 20,000 turnover that he earns 20,000 worth of money from that post office then that would be one figure. If you are looking at all of the money that moves backwards and forwards across the counter, money that is paid in and goes off to other agencies, deposits and so on and so forth then I believe from my understanding of this system that is the number that we have captured in that 48 or 24 million pound figure.
- Q I see, because of course the profits are a tiny fraction of that 24 million pound figure. The turnover is just the amount of money going to and fro. A. Yes.
- Q But do your calculations as to turnover, do they depend on any of the fictitious figures of Mrs. Misra for the cash on hand for instance, cash in pouches? A. Well, what you have in terms of stock is not something which will show what you have in terms of movements, and so if you have extra stock and you are showing a higher position and I think the example is that there is a pouch value of £50,000 and that is not going to be turnover. That is just stuff that is held in—
- Q So that is not part of your figure. A. It will be shown as a transaction as an in and an out.
- Q Does that make up part of the figure then? A. So all of the pouch moments will be

- A part of the figure.
- Q Yes, so if a person is lying about pouch movements then the overall turnover figure may be an exaggerated one. A. I think the effect might actually be the other way and so if you put £50,000 into a pouch and you never send it out then actually there will never be any transaction which records the sending out and therefore the amount of movement in the account will be less.
- Q So be it then but turnover also includes false declaration as to how much cash is there. Does that not affect the turnover figure? A. No, because that is just information, I believe. I may be corrected about this but my understanding of the way the system works is that you have the cash which would be recorded by the transactions on the system and the declaration is just a note that you make of the stock level and so I am not sure that that would create extra transactions.
- Q All right, well, perhaps we should both leave that. I am sure your expertise is vastly superior to mine but can I ask you about some other things; transactions corrections? A. Yes.
- Q Now as I understand it, what you are saying is you accept what Mr. Jenkins is saying but you add the caveat that there might be transaction corrections, positive ones, due to Mrs. Misra which did not come through to her. A. I want to be very clear. What I am suggesting is that if Mrs. Misra did not have the information to raise transaction corrections that would have been in her favour and if the post office central processes and systems did not pick those up then she would be down, she would have discrepancies that would—
- Q That is not right, is it? If she makes a mistake and does not check something and so puts money in, it does not create a hole in the accounts: it just creates a hole in her

- A pocket. It is a personal loss to her but it does not create a missing 74,000 in the accounts. Does it? A. There is a discrepancy that has occurred.
- Q Yes. A. That she has covered by putting her own money in, under your explanation.
- B Q Yes. A. And what should properly have happened is that I hypothesize that she should have asked the post office to deal with that discrepancy through a transaction correction so she did not have to put her own money in or alternatively the post office should have identified there was a problem and they should have offered a transaction correction which would have meant that she did not have to put her own money in.
- C Q Fine, but it is a case of her losing her own money. That situation where she does not check the transaction correction or does not have the evidence to check it and then puts money in the till from her own pocket: that cannot at all explain a deficiency of 74,000. It does not work. There will not be a deficiency. She has put the money in.
- D A. If she does not put the money in then the system will continue to show a discrepancy.
- E Q It would be a very dishonest thing to do to get a transaction correction and then say, 'I am not going to put the money in.' Would it not? A. If you do not have the money, you cannot put it in.
- F Q Well, would it not be dishonest to pretend you had put the money in and to fiddle the books to show the transaction correction has been followed, but then not put the money in. That would be dishonest, would it not? A. I believe that would be falsely accounting.
- G Q Well, it would almost be taking away the money owed to the post office from it.
- H A. I cannot take a view about whether that is a proper interpretation of it.

- A Q Well, the post office says you owe me £10,000 and the postmaster says, 'Oh, I don't like that. What I will pretend do is that I will pretend I put the £10,000 in and fiddle the books.' That is dishonest, is it not? A. I think it is and I don't know if that should be constructed as false accounting or theft because I don't understand what the legal definitions of those two things are.
- B Q All right, but that certainly does not matter but have you any information from Mrs. Misra that she ever did that? A. I did not speak to Mrs. Misra about whether she did that.
- C Q But that is the only way the transaction corrections theory works is if she is told to do a transaction correction and refuses to do it. A. No, I don't think so. I think there is another--
- D Q Or refuses to put the money in and just pretends she has-- A. I don't think so. I think there is another scenario in which she is down and the system should have advised her that she should have some money and that would leave her down.
- E Q Yes, that is a quite separate situation. Is that where she is not told that she should have some extra money? A. Yes
- F Q There is some kind of error further up. A. Yes.
- Q And the transaction correction is not sent through. A. That is correct.
- G Q Now that would presumably follow from, well, you heard from Mr. Bayfield and he was able to give detailed evidence about transaction corrections. Do you remember hearing that and there was the obvious example of a video being taken of cash counted. A. I did.
- H Q Yes, so a transaction correction not being processed and sent through to the branch that is likely to have been because of human error, yes? A. It could be human error or

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it could be system error or it could be a combination of the two and it may not just be in relation to remittances. It could be in relation to all sorts of other reconciliations which occur. If you like, I will give you a specific example.

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Q All right. A. So I get on my bank statements and perhaps other people get on their bank statements situations where you have been to the supermarket and you have spent £50 and you get £50 deducted from your debit card onto your statement, and then there is another £50 deducted so it has gone through twice and then you get a credit back of one of the £50 so only end up having to pay £50 once. Now that correction is done by a group of accounting people in the finance department of the supermarket who make sure that you do not get charged twice. So they identify that there has been some sort of fault in the system which means that you were charged twice: they notice that you were charged twice and before you complain about it, they sort it if you and give you a credit because the post office has a lot of debit and credit card transactions and it is feasible that those kinds of things happen. What I was not able to determine was whether there is a function at the post office which takes on that role and whether they are effective and whether they are consistent and so that is an area where, if you took the money out twice, then the branch accounts would then expect you to have collected £100 when in fact the only thing that has been authorised was £50, and so you could imagine a situation in which at the post office they issue a transaction correction, saying you said you only collected £50 but we can see from our records you collected £100 so therefore you need to find the other £50 and that is a theoretical example which I was not able to examine.

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Q Well, it would take an awful lot of those examples to add up to £74,000. Would it not?
A. If you have people doing transactions of £500 or £1,000 or £7,000 which I think we

A saw transactions of that scale it does not take a lot.

Q Yes, well, I am going to come a transaction for £7,000 in a moment but--

B JUDGE STEWART: In that theoretical example that you just referred to, am I getting this right that the postmaster would know that post office central are saying that they are £50 out? A. They would be informed that they were £50 out.

C MR. TATFORD: So if the postmaster was informed then they would be crazy not to check it, would they not? Otherwise they lose money for a mistake that is not their fault. A. I don't know that they would have the evidence to determine it one way or the other.

D Q Well, we heard from Mr. Vasarmy. He said he would have the evidence. He knew how to check a transaction correction and he was able to say he could print off a printout for any transaction he wanted and he would be able to test the evidence. A. He gave a very specific example in relation to a giro paid in, yes.

E Q I am actually talking about the evidence that you were not here for and so in fairness to you he did explain how he would check transaction corrections and he explained that he had never had a loss that he could not find an explanation for and he explained that he had checked the transaction correction by pulling out the record of the particular transaction from the Horizon system. You would expect the system to be capable of that for the postmaster, would you not? A. That would be a reasonable thing that you would expect the system to do.

G Q Well, he was saying it did do it and it may be that you were not here, as I say, no fault of yours, but that is his evidence that the system did allow him to test transaction corrections. He suggested he would have no problem about that at all and you suggest as a hypothesis that a postmaster may not be able to check, but there is no evidence of

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A that. The evidence goes the other way, does it not? A. My understanding is that there are not vouchers provided that would allow you to consistently check on an ongoing basis whether the transactions were correct. You would have to rely upon what was actually on the Horizon system.

B Q Well, he said he did not need the paper vouchers. He could get a printout from Horizon. A. So he was relying on the Horizon system.

C Q Yes, the Horizon system is based on the figures that he or a member of staff has put in. Are you suggesting we should go back to pen and paper and that we just cannot rely on these things and that we should go back to the old days? A. What I have seen in

D banks is that they are very keen to ensure that they can check that what is on the system is reflected on a piece of paper at the time so that they can actually be confident that what has been put on the system is the same as what has passed over the counter.

E Q Well, Mr. Vasarmy has said he was very keen to check that sort of thing and he could; that was the evidence that he gave. So do you want to re-evaluate your suggestion that this lack of paper vouchers is a real problem in this case? A. I have not heard Mr. Vasarmy. I accept what you are saying.

F Q In fact, in your report, you did not even refer to having seen his statement. A. No.

G Q That is a bit unfortunate. Was it not? You go to all of the trouble of doing an enormous amount of work on Horizon without the potentially important information that the current sub-postmaster has no problem with the kit. A. I think I have explained why I thought that that was not actually going to give me an enormous amount of information.

H JUDGE STEWART: You do not think it is very helpful information. A. Sorry?

Q You do not think it is very important information to know that Mr. Vasarmy does not

- A think it is much of a problem. A. I don't think so. I mean it was clear to me that there were lots of sub-postmasters who did not have problems. What I am concerned about in this case is a sub-postmaster who does claim that there were problems.
- B Q Yes, so really what it comes down to again is that it is for the jury to decide on the evidence whether Mrs. Misra had problems or not and you can only give possible hypotheses for problems. We will have to hear it from the horse's mouth. A. I have given my view about what possible problems are there and what possible problems I have been unable to exclude.
- C Q That is your view of what possible problems. Whether they were there or not it may be that Mrs. Misra may be able to help on that in due course. A. She may.
- D Q Yes, now transaction corrections because you have said that you are worried about somebody like Mrs. Misra not being able to challenge the correction correctly and check the evidence. Now in your original report which was dated 30th of September in that report you said and let me just quote it accurately to you. Do you have that report in front of you or do you just have the 4th of October one? I am afraid I do not have a hard copy of the original report. A. I only have the 4th of October.
- E Q All right, it may be that you can remember this because I suspect that it may stick in the memory. I am so sorry, let me just find the reference. Could you look at page 13 of your report? A. Can you give me the section number, please?
- F Q I am so sorry. It is 2.5.1, I think. A. Yes.
- G Q And you said this and it is the top of my page 13: "In my analysis, I was unable to find evidence that Misra did request evidence in the transaction corrections in the transactions provided between 1st December 2006 and 31st December 2007." Do you see that? I am so sorry if your format is different from mine then it may be rather
- H

- A difficult to find it. Do you see where it says 2.5.2 remittances? A. Yes.
- B Q Go up one paragraph and it begins 'in my opinion' and then go up beyond the bullet point and go up to 'Jenkins appears', go up two more paragraphs and there is a paragraph which deals with the post office talking about the post office providing the sub-postmaster with an opportunity to request evidence and challenge a transaction correction. Do you have that? A. Yes.
- C Q All right, just have a read through of that section. A. So I am reading from 4th October version.
- D Q Yes. Do you see the words: "In my analysis, I was unable to find evidence that Misra did request evidence for transaction corrections in the transactions." A. So I if read that sentence it says: "In my analysis, I was unable to find evidence that Misra did request evidence in the transactions provided between 1st December 2006 and 31st December 2007 although I understand from Jenkins that there are such requests during her tenure at West Byfleet."
- E Q All right, so Mr. Jenkins has said, well, Misra did request evidence for transaction corrections on three occasions. A. I accept that.
- F Q And you say you have not been able to find it. I think your original wording in the report is that there is no record that Misra did request evidence. A. I do not have it in front of me. If you have a copy which says that--
- G Q Well, I am afraid I do not have it in hard copy but the point is that you thought that this may be a significant point in support of your transaction corrections theory, because you were saying is Mrs. Misra the sort of person who does not check transaction corrections? Yes? A. I wasn't attaching a value to it. I was just wanting to make sure I reported on it.
- H

- A Q Yes, well, you wanted to see if she had challenged the transaction corrections, did you not? A. I thought it important to tell the court if she had or had not.
- B Q Yes, because if she had not, it might suggest that your hypothesis had some support. A. It might suggest that she thought that there was no problem with the transaction corrections.
- C Q Fine, but it might add a little extra support to your transaction correction hypothesis. Yes? A. I thought it was important information to be available.
- D Q Yes, because the fact is that Mrs. Misra was the sort of sub-postmistress who did challenge transaction corrections because she did it three times. You accept that Mr. Jenkins has found what you could not find. A. I do accept that, yes.
- E Q Yes, so initially you thought you had an absence of checking and demanding evidence from Mrs. Misra—
- JUDGE STEWART: Well, you have your point Mr. Tatford.
- F MR. TATFORD: Oh, yes, so be it then, thank you. So although some sub-postmistresses or no let me move on to another issue, I am sorry. Another area where your hypothesis, you thought you had some support for it and it disappears is in relation to the fast cash button. Do you remember your theory and it is a perfectly valid theory and the question is whether it applies to Mrs. Misra. Yes? A. Correct.
- G Q Your theory is that if a credit card transaction fails and that failure is not acknowledged and either there is a reversal or abandonment of the transaction or another way of payment then that can result in a loss. A. Correct.
- H Q A perfectly valid theory and you thought you had found an example of it, did you not, because can I ask you to look at page 91 and the jury have this in the bundles that have been handed and it is page 91 in the various extracts of data that you have set out?

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Now mercifully we have not gone through all of this. It certainly shows your hard work that we have not gone through it but you were trying in this long document of 29 pages to find potential failed credit card transactions which might not have caused a loss, yes? A. That is correct.

B

Q And look at the bottom one. A. Yes.

Q £7,000. A. Correct.

C

Q And you had put "no reversal". A. So that was a comment for me to take up with Jenkins to see whether there was a reversal.

D

Q Yes, I am not suggesting that you did anything wrong or in fact made any real mistake. You were wondering whether aha (aha is a rather silly way of saying things) but you were saying, 'Ah, is this perhaps an example of a failed credit card transaction causing a loss?' A. Correct.

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Q And it appeared to you that it might be. A. I could not see immediately afterwards that there was a reversal in the [inaudible] I had done so I wanted to make sure that we properly investigated it.

F

Q So this really looked like a good example of a piece of evidence to support one of your hypotheses. A. It was certainly something that needed to be considered.

G

Q And in fact when you checked matters with Mr. Jenkins he was able to show you in fact that there had been no loss and that had been settled by cheque. A. He was able to show me there was some way of dealing with it. I am not sure that that one was settled by cheque or whether that one was reversed but certainly—

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Q Let me just check behind me.

JUDGE STEWART: Mr. Jenkins said settled by cheque.

MR. TATFORD: Thank you very much. A. I am happy to accept that. I do accept there

- A was no loss associated with that.
- Q So that looked like an example of failed credit card transaction potentially causing a loss and in fact it is not. A. That is correct.
- B Q And in fact you agree with the analysis of Mr. Jenkins who has looked at the big transactions. A. Correct.
- Q Because there is no point going through every one because we have got to try and work out why £74,000 is missing. Yes? A. Correct.
- C Q So he went for the big obvious transactions and all of those failed card transactions they never resulted in a loss. A. Correct, the large ones, the ones over £1,000.
- D Q So your theory, perfectly valid in theory is shown not to apply in the evidence. A. It did not apply between December 2006 and December 2007.
- Q Of course, because you were given and do you understand the rationale for the data you were given because Mrs. Misra had said, is this right, in her interview that there thefts by other members of staff up to the end of 2006 and the data you were given was a long period of data untainted by any suggestion of theft by another person. Do you understand? A. I understand now; that is not something that was made clear to me at the time.
- F Q All right, you understand the rationale behind why you were given that 13-month period because it is not tainted by any suggestion of theft. It is clean data to look at for computer error. Yes? A. I understand the reasoning. I did request the data for the entire period.
- G Q I fully accept that but quite honestly if one requested and received every piece of paper for West Byfleet, we would probably fill this room. Would we not? A. Most of the stuff you do not need to have on paper.
- H

A

Q No, but just for an example of the vast amount of detail potentially available if you have printed it out the paper would fill the room, pretty much, would it not?

A. You would not choose to analyse it by looking at it on paper.

B

Q Well, it is an awful lot of data. A. Well, we saw there were 430,000 records for 13 months.

C

Q Yes, and on all of those 430,000 transactions your theory did not work or there was no evidence to justify your perfectly permissible theory in that long period. A. There was no evidence in relation to sums above £1,000. There was some evidence that would support it for smaller sums of money.

D

Q But did you actually go in to check that or not? A. I went through some of those items with Mr. Jenkins and we identified some small amounts and we agreed that there was not a sufficient amount there to explain £75,000 worth of discrepancies.

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Q Yes, that is the point because of course mistakes can happen and of course things go wrong with computers every now and again, and we all know that from our own experience, but the issue for the jury to consider is why there is a deficiency of such an amount; not whether there were a small amount of genuine mistakes. Do you accept that? A. Yes.

F

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Q And for what it is worth, that data suggests that the people working at West Byfleet in 2006/07 could use the fast cash button correctly. Does it not? A. I am not sure that you can draw that conclusion. I think Mr. Jenkins and I have a slightly different opinion on this and so I think Mr. Jenkins' opinion is that when they use the fast cash button incorrectly they discover it immediately, and therefore it is not an issue, whereas my view is that because they use the fast cash button incorrectly and is detected on some occasions, there may be other situations in which they use it

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A incorrectly and they do not detect it but certainly in relation to the debit cards we have established that that is not a source of significant discrepancies.

Q And frankly, however well a system is designed, people can still make mistakes using it. Can they not? A. The important thing is how important those mistakes are.

B Q Yes, and in this case are there mistakes that could explain the deficiency with which we are concerned? A. I am not in a position to say whether they are or are not.

C Q You said in your evidence, in answering questions of Mr. Hadrill that you thought you had found partial evidence to support your hypotheses. A. Correct.

Q Can you help us as to what that is because, well, you help us? What is the evidence to support any of your hypotheses? A. Well, one of the examples is the fast cash button so there is evidence that the screen is recalibrated so that supports my hypothesis that incorrect calibration of a screen could be a source of error, because there was a recalibration.

E Q Does it follow that the screen had to be recalibrated but does that mean that any actual mistakes were made because there was a problem with calibration? A. No, but it does support the hypothesis that it could be a source of mistakes.

F Q Well, it is only the first building block, is it not? A. It is, yes.

Q You cannot point to any error in all of the records which is down to the calibration of the screen. A. No, and the nature of the kind of error that you would have is that it would not appear in these records.

G Q Well, let us look at the kind of problem that you have had if you are pressing the wrong buttons because the screen is misaligned, potentially you hand over a television licence to somebody who wants their pension. A. I think because of the way things work that that would be done through barcodes and so I think that would not

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- A actually cause the problem you are talking about.
- Q Right, but the problems we are really concerned about is money being lost.
A. Correct.
- B Q Now the correct amount of money being taken and received is important to the person behind the counter because they are doing their job which is taking money from customers. A. Yes.
- C Q And so it is important for them that they get it right and it is important to the customer on the other side to make sure they are treated properly and get the right change.
A. I think the example from Mr. Vasarmy suggests that sometimes people do get it wrong in regard to quite large sums.
- D Q Of course and that is what was gone through exhaustively and that is a problem he was able to find out all about so that is not an example of a recalibration error causing an error that cannot then be found, is it? A. It is not, no
- E Q Now the user face [sic], poor user face [sic] can cause problems. A. Correct.
- F Q Now I am happy to accept that that might be right if a screen is designed badly and is difficult to operate and that is going to increase mistakes but you wanted to do tests on the screen, filming people using it. A. Well, there are two things I wanted to do: one was to film people using it and the other was to get an independent view by somebody who was an expert in that area as to whether the implementation met the requirements that were appropriate for this kind implementation.
- G Q But is it really necessary to go that far. Firstly, you have seen the Horizon system working, have you not? A. I have had some fairly brief walk throughs of some small subsets of the transactions.
- H Q Well, you have been to West Byfleet, have you not? A. I have.

- A Q You went there on 19th November of last year. A. I rely on you for the date but I did go.
- Q And when you got there you saw the staff working on Horizon. A. I did.
- B Q And they explained what they were doing. A. They did.
- Q And did you understand what they were doing? A. I understood what they explained to me, yes.
- C Q Did they appear to know what they were doing? A. Some of them were asking for help from other people within the branch while I was there.
- Q Oh, right.
- D JUDGE STEWART: It was not quite the question you were asked. Did they appear to know what they were doing? A. Well, the people who explained to me what they were doing they did appear to know what they were doing, yes.
- E MR. TATFORD: If you heard people asking their colleagues for help it sounds like you were there quite a long time. A. I cannot remember exactly how long I was there for. I think two or three hours.
- F Q And you were there with Mrs. Misra. Were you not? A. She was on the premises but she was not permitted to enter the post office area.
- Q I see. And did you not take the opportunity with her there to ask her questions about what you saw in the post office? A. No, I didn't.
- G Q And so you have seen it in operation with people actually using it and it looks like the pictures that Mr. Jenkins produced, did it not? A. I am happy to accept that.
- H Q Nice big buttons. A. They are quite reasonably sized, yes.
- Q Good colouring. A. Yes.
- Q And the instructions are in very easy language. A. Apparently, yes.

- A Q Well, have you seen any examples of complicated instructions? A. No, because I have not examined the whole system.
- B Q 'Take £5.65' that sort of instruction. That is the easy sort of instruction that the system gives. Is it not? A. That is correct.
- C Q So you have seen it in operation and you have been to other post offices as well, I think, and seen it in operation. A. Yes.
- D Q So can you not tell us whether it is a good design or not? A. I can't give you an expert opinion on that, no.
- E Q No, but you can just tell us what you thought of it when you watched it. Did it look as though it was doing the job? A. I do not think that it is appropriate for me as an expert to offer an opinion without having properly investigated it and so I can give you a casual response, which you have already heard from other people other witnesses that it looks okay but I would not ask anybody to put any weight on that as an expert.
- F Q Well, in fact, are not the real experts on whether it is a good system the operators using it because they can say whether it works or not or whether it is easy to work? A. I don't think that would give you an independent view. I think that would tell you what their experience was as a set of operators; but I think there are well-established ways of determining whether a user interface is effective or not and you do that by measurement. You do not do that by asking people's opinion.
- G Q Fine, but did you take the opportunity to ask the members of staff, 'Do you like the system? Does it work well for you?' A. As far as my recollection is, they talked about how they used it and that they understood how they used it, how to use it.
- H Q It is quite a cramped office, is it not? A. The one at West Byfleet is cramped and the other one I looked at was even more cramped, actually.

- A Q It is just a little box at the back of the shop, is it not? A. Yes.
- Q And the staff sitting close to each other at the separate counters. A. Yes, I mean it is not absolutely minuscule but it is quite close.
- B Q No, it is not a broom cupboard but I think it has been described as the area of the green seating by that little wooden wall where Mr. [inaudible] is sitting. It is about that size, is it not? A. It is about that size, yes.
- C Q So you say poor user face [sic] can give rise to mistakes. Do you think that the system has a poor user face [sic]? A. Do I think it has a poor user interface?
- Q Yes. A. The short answer is that I don't know because I don't know how it operates for the people who are operating it. If I was to look at it in general in terms of what I might expect from a user interface for that kind of application it looks okay to me.
- D Q Fine, so it looks okay to you. A. But that is not an expert opinion that I would ask people to rely on.
- E Q No, but if you had in fact gone to the post office and looked at it and thought hang on that does not look very clever, you would be telling us about that, perfectly reasonably. Would you not? Would you not? A. Well, I would want to have evidence that that really was a problem for the operator rather than saying that just looks a bit awkward.
- F Q And can I just ask you about a theory that with good grace you do not pursue and I hope it is clear all of your theories are perfectly valid ones: the question is as I think for the jury whether they are realistic possibilities in this case. Would you agree?
- G A. Correct.
- H Q Foreign currency and revaluations and so forth. I think you were given a piece of

- A paper by somebody from another post office. A. It does not relate to revaluation of foreign currency .
- Q Was that traveller's cheques? Am I misremembering? A. That is correct.
- B I see, thank you and you showed the piece of paper to Mr. Jenkins. Did you not?
- A. I did.
- Q Because that is what gave you concerns about traveller's cheques. A. Correct.
- C And he explained to you that that piece of paper was nothing to do with Horizon, did he not? A. I don't think that is what he said. I think there were two pieces of paper which I took to him; once of which was a handwritten, if you like, stock record which was not produced by Horizon and the other was a report that had been produced at
- D Horizon and the two documents were from the same post office relating to the same period, and I was seeking to understand how they related to each other and how you ended up with a situation where you had a negative stock of traveller's cheques
- E because intuitively for me a traveller's cheque is a piece of paper: you cannot have a negative number of pieces of paper and Mr. Jenkins was able to explain to me that in a situation where you have sold traveller's cheques before you actually entered them into
- F the stock then you could end up with a negative quantity.
- Q I see, but in any event Mr. Jenkins explained matters to you and you decided that the theory (perfectly understandably on what you had been given) in fact was irrelevant for
- G our purposes. A. Yes, absolutely.
- Q So the position is really that at the end of this apart from you talked about calibration and there were recalibrations but whether that caused any mistakes you do not know, but apart from that small building block and apart from some fast cash transactions of
- H minimal value, apart from those matters there is no evidence to support your

A hypotheses. A. There is no evidence that I have been provided with, no. On the evidence I have been provided with, no, there is no evidence.

Q And you have looked hard at the enormous amount or you have been given a lot of material, have you not? A. I have been given a lot of material in relation to Horizon in relation to the transactions on Horizon and in my report I set out the limits of the material that I have been given.

Q Of course, but if you spent time looking, I mean do you think your report: you received the logs in March of 430,000 odd transactions and you received them in March and you worked hard on them and produced a report at the very end of September so it would appear working perfectly properly that to provide a detailed report took a good part of six months. A. I think that is not a proper way of constructing the sequence of events—

Q Well, all right. A. So I was presented with the documents and if I could just refer to what I record in terms of the sequence so on 22nd of February Fujitsu were instructed to provide the transactions by the post office.

Q Yes. A. On 5th April that is the first opportunity I had, sorry that was an opportunity I had to discuss the technical details with Mr. Jenkins and I was told at that point that the Horizon event logs which show the variance checks for example, I had not been given and so we then got those subsequently.

Q Right. A. And then I prepared a draft report and—

JUDGE STEWART: What is the purpose of this enquiry?

MR. TATFORD: All I really want to get to, Mr. Jenkins [*sic*], is this. I am so sorry it is my fault for setting the hare going; but if you had received all of the material that you had wanted, how much longer do you think it would have taken for you to do all of the

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work that you would want to do? A. In terms of actual elapsed time, not very long or the same amount of time, because I spent a lot of time waiting for people to provide me with information or waiting for people to be available or waiting for people to return from holiday and so I do not think it would have delayed this trial at all.

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Q All right, will your honour just give me one moment, please? [Pause]. Yes, I have no further questions, thank you.

C

Re-examined by MR. HADRILL.

D

Q Just to deal with the last thing in actual fact: holidays, you spoke to and discussed matters on 20th July, was it not, with Mr. Jenkins? A. Yes, and I made the suggestion that we needed to follow up on access to the system in the Midlands and access to operations in Chesterfield, access to system change requests, known error logs and new release documentation to understand what problems had been fixed.

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Q But the reality is that you did not want to serve a final report because you wanted to find agreement, if there was, between you and that could not be discussed with Mr. Jenkins in September because I think he was on holiday. Was he not? A. Returned from holiday I believe on 27th September.

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Q And so you discussed it and served it immediately upon him so that he could respond. Yes? A. On his return from holiday, we had a conversation so that I would understand or be able to resolve some of the outstanding queries that I had and then sent the report to him as soon as possible thereafter which I think would be the end of that week.

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Q And what you have tried to do was to sit down with him at court as before to try to agree small details like the £7,000 cheque you asked about, you discussed it and you are not taking an intransigent position and said you accept between discussions.

A A. My experience of working with Mr. Jenkins and also with other experts is that they are very keen to find places where we can agree, and Mr. Jenkins has been very helpful in permitting us to do that and giving me the information we need to resolve concerns I have got and give me information that I need so that I can correct errors that I have made.

Q And likewise, he said he had found on his investigation three occasions where Mrs. Misra challenged the correction notice. Are you willing to accept that? A. I was very grateful that he had found something that I was not able to find.

Q It is working together. A. That is what I would expect from an expert and Mr. Jenkins has done that.

Q Thank you. You were asked by Mr. Tatford the fact is that there is no call on the Fujitsu log which is referable to the same symptom as Callendar Square and you said that to describe a computer problem you need to understand there is a computer problem to begin with. A. That is correct.

Q And so somebody in the British Isles has managed to find a fault which had not been recognised by many postmasters prior to that. A. That is my understanding.

Q You were asked about the £75,000--

JUDGE STEWART: Well, do you know that? That it has happened but not been recognised by a postmaster in the past? A. What it says on the peak report is that there were other incidents at other sites so my understanding is that that means that there are other postmasters who have reported it and the software that was the source of the problem that Mr. Jenkins advised me had been in place since 1998 and this problem had not been fixed until that point so that is the basis upon which I am making that statement.

MR. HADRILL: And in regard to the £75,000 loss in [inaudible] in June 2005 to 14th

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January 2008 so a two and half year period so we are not talking about a loss of £75,000 accruing in the last 12 months. It could be spread out or it could all be frontloaded in 2006. A. I don't know.

B

Q You just do not know. And in regard to the patch or the correction for Callendar Square, you say you would like to look at the underlying reports and the raw material and because, if we look at the peak management system summary, we know that an engineer or it is asserted that it is a problem that cannot be resolved by Chesterfield and so it is to be resolved by Fujitsu. Yes? A. The starting point is that Chesterfield cannot solve it and so it is passed to Fujitsu and then other things happen after that.

D

Q A Fujitsu engineer makes the assertion that it is a lock out but it is then sent off to Esher, the sub-contractor. A. That is correct.

E

Q And there is no evidence to confirm that what was the assumption made by Fujitsu is actually the error that was resolved by Esher. A. I have not been able to look at that and confirm it. The process would suggest that that is what happened but I am unable to confirm it.

F

Q But it took Esher a considerable period of time to resolve. Actually, the log does not say how long they took to resolve it. All it records is that someone notices that there was a resolution and they put it on the system at some point later so it is not clear how much effort Esher made to resolve it or how long it took them. I think that the next reference is, 'Oh, my goodness, I should have put something on ages ago' or something like that to update the system so we do not know how long it took.

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Q And it was included in the S90 UK10 whatever that is. You have not seen what the S90 was explaining what the problem was that Esher found. A. What you

A normally have is you normally have something called a released schedule and the release schedule for S90 would have in detail a list of all of the things that had been fixed, and so that you know that out in the field these problems should no longer occur. I did not see the release schedule.

B Q And simply this, Mr. Tatford said, "Oh, well, if you had been given all of the information it would fill this room." And you said or responded by saying, "Well, it would just be kept on my laptop or electronic equipment." A. That would be the normal way of proceeding.

C Q And you would not need vast amounts of space as with Monday night it is just e-mailed to you overnight for you to analyse a significant amount of electronic data. A. Yes, or it can be sent by CD. There are a variety of ways of doing it. I often get very large volumes of data sent to me.

D Q And your last words were, "The thing is it is how important the mistakes are and I cannot say how important they are because [you] do not have the material." A. That is correct.

E Q Thank you. Does your honour have any questions?
F JUDGE STEWART: No, thank you very much, thank you. A. Will there be any requirement for me to be further available?

G Q I believe you are going off somewhere. Is that right? A. That is correct.

The witness withdrew.

MR. TATFORD: Your honour, the final witness for the Crown is John Longman. I can call him now if your honour wishes me to do so. I am entirely in your honour's hands.

H JUDGE STEWART: Well, I think it has been reasonably solid work all day. I think that is enough for this week. It is looking (subject to the eternal uncertainty of things) as

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though you might be retiring to consider your verdict on Tuesday and that is what I am currently led to expect but do not hold me to that; but it is the weekend and I hope that you have a pleasant weekend. 10.15 on Monday.

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Adjourned until the following week.

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